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A

DESCRIPTION

O F T H E

GUERNSEY LILLY.

The Second Edition.
With Figures on three large Copper-Plates.

B Y

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L O N D O N:

Printed for GEORGE STRAHAN, at the *Golden-Ball* over-against
the *Royal-Exchange* in *Cornhill*. 1737.



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T H E

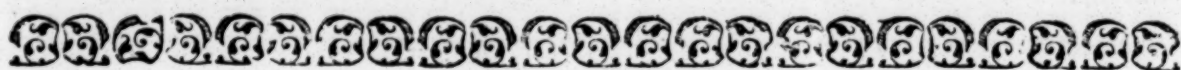
P R E F A C E.

TH E skill and contrivance of Nature shine forth as brightly in the œconomy of the Vegetable kingdom, as in any other part of her works, and the effects thereof are no where more eminently conspicuous than in plants remarkable for the structure of their flowers. That the Guernsey Lilly is of this number will, I believe, be disputed by none who have ever beheld it in full blossom; and as it has hitherto been described but very imperfectly in any language, and never tolerably in English, this, as well as the extream beauty of its flower in which it has hardly an equal, engaged me to draw up the following Account of it, from observations which both I and several others by my direction, have been employ'd in making for several seasons past.

T H I S Treatise is partly Botanical and partly Historical. I have not only describ'd the plant as fully and as exactly as I possibly could, either by words or figures, but have added, in the proper places, whatever I have been able to discover concerning the history both of the plant itself, and of what has been hitherto said about it by authors. I begin by a compleat list of the names which have been given it in several languages, and after some account of the reasons or Etymologies thereof, I go on to the Loci Natales, or the native places of its
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growth.

growth. To this article I have subjoin'd another, containing the history of the time and manner in which this plant was first brought from Japan to Guernsey, and from both these islands to the other countries in Europe which it has hitherto reached. In the next, I give an account of the different ways in which it has been rank'd and class'd by Botanists since the invention of Method; and having thus dispatched these more general heads, I proceed to the description of all the parts of the plant, which I first consider in their more perfect state, and then explain the progress of each, both in their growth and decay. All this I have divided into twelve articles, and to each of them is prefixed a short Latin Account of the part treated in it. In the succeeding article, I give particular directions concerning the best method of cultivating and managing this plant, in which I have taken care first to consider the soil, climate, and practice of the inhabitants of Guernsey, and then to apply all these observations to England; adding withal, whatever the experience of our most judicious Gardeners here has been able to furnish me with. I conclude the whole with the Botanical history of this plant, in which I set down in order of time, whatever is to be found in authors about it, that had not been taken notice of in the foregoing articles; and as I have not failed to do justice to the merit of every writer I mention, so I have pointed out their mistakes, with the same freedom that I shall willingly allow every one to take with me. In this article likewise I have taken notice of the figures hitherto publish'd of the Guernsey Lilly, and carefully distinguish'd the originals, from the copies that have been taken of these.

MY own figures are contained in three large plates, of all them done from the life by a very able hand. I have accompany'd them with short explications, and, when taken all together, I am confident they will serve to illustrate all that I have said in the description, in as full and plain a manner as the nature of the thing will allow of.



The EXPLANATION of two FIGURES, added to the first PLATE, and taken from the Roots, on the Tenth of August, 1736.

FIG. 20. represents the embryo of a flower arising from the root of a Guernsey Lilly that had flowered last year, as appears from some remains of the flower-stem.

1. The *Fibrillæ* of the root cut off.
2. The *Nucleus*, or solid part of the root.
3. The stem of the new flower.
4. The *Perianthium* enclosing the tender flowers.
5. The remains of the last year's flower-stem, the tunicles within which it lay being removed.
6. The edges of these tunicles, or coats, appearing on the outside of the root.

FIG. 21. shews a root of the Guernsey Lilly cut thro' the middle

lengthways, to shew the remains of the old *Caulis Floriger*, or last year's flower-stem, the embryo of the new leaves, and the true disposition of the coats that make up the root.

1. The hard part of the root.
2. The circular order of the tunicles on both sides.
3. The longitudinal order of the innermost coats.
4. The leaves beginning to arise from the root.
5. The edge of the last year's flower-stem, thro' the whole length of the bulbous root.
6. A *Surculus*, or off-set, arising from the hard part of the root, being covered by several of it's coats.

N. B. From these observations it plainly appears, that this beautiful Lilly, in it's native soil, may blow two years successively from the same root, if not oftner.

ELENCHUS



ELENCHUS CAPITUM.

C atalogus Authorum,	Pag. 1.	Perianthium - - -	Pag. 33.
Nomen	2	Pedunculi - - -	34.
Synonima	3	Vasculum Seminale - - -	35.
Etymologia	7.	Flores - - -	36.
Locus Natalis	9.	Petala - - -	42.
Adventus in Sarniam	10.	Stamina - - -	44.
Notæ Characteristicæ	20.	Apices - - -	45.
Radix - - -	21.	Stylus - - -	46.
Folia - - -	28.	Cultura - - -	47.
Caulis Floriger - - -	31.	Historia Botanica - - -	53.
		Figurarum Explanatio	77, 78.

The Names of the Authors digested alphabetically.

Barrelier,	1714.	Liger,	1706.
Boerhaave,	1700.	Morin,	1658.
Bradley,	1726.	Morrison,	1680.
Cornutius,	1635.	Pluknet,	1696.
Dodart,	1701.	Raius,	1688.
Evelyn,	1664.	Rea,	1665.
Evelyn,	1673.	Rapin,	1665.
Evelyn,	1717.	Robertus,	1676.
Gardiner,	1706.	Rudbeck,	1701.
Jonquet,	1666.	Tournefort,	1700.
Kæmpfer,	1712.	Woolridge,	1700.
Lawrence,	1726.		



A
C A T A L O G U E
 OF THE
A U T H O R S
 Who have either mention'd or describ'd the
Narcissus Japonicus,
 OR
GUERNSEY LILLY.

JACOBUS CORNUTIUS
vel CORNUTI,

Parif. Med.

CANADENSUM Plantarum, alia-
 rumque nondum editarum
 Historia.

*Parif. 1635. 4to. Vid. cap. 58.
 p. 157.*

P. MORIN,

Gallus.

Remarques nécessaires pour la
 Culture des Fleurs diligemment
 observées.

Parif. 1658. 12mo. Vid. p. 30.

JOHANNES EVELYN,

Anglus, Soc. Reg. Soc.

*Calendarium Hortense; or, The
 Gardener's Almanack.*

Lond. 1664. Folio. Vid. p. 65.

Ibid. 1669. Folio. Vid. p. 15.

Ibid. 1699. 12mo. Vid. p. 52.

*A Philosophical Discourse of
 Earth, relating to the Culture and
 Improvement of it for Vegetation,
 and the Propagation of Plants, &c.
 as it was presented to the Royal
 Society, April 29. 1675.*

Lond. 1676. 8vo. Vid. pag. 73.

A

RENA-

RENATUS RAPINUS,

Gallus, e Societate Jesu.

Hortorum Libri quatuor, cum
Disputatione de Culturâ hortenſi.Paris. 1665. Folio. Vid. lib. 1.
p. 25.Ibid. 1681. 8vo. 2 Tom. Vid.
tom. 1. p. 84.

JOHANNES REA,

Anglus.

*A Compleat Florilege, furniſh'd
with all Requiſites belonging to a
Florist. In three Books.*Lond. 1665. Folio. Vid. lib. 1.
cap. 10. p. 74.

DIONYSIUS JONCQUET,

Doct. Med. Paris. Reg. Ord.
& Horti Regii Botanicus
Professor.

Hortus Regius.

Paris. 1666. Folio. Vid. p. 125.

JOHANNES EVELYN,

Anglus.

*Of Gardens. Four Books. First
written in Latin Verſe, by Renatus
Rapin, and now made Engliſh.*

Lond. 1673. 8vo. Vid. p. 60.

NICOLAUS ROBERTUS,

Gallus, Blesensis. Pictor eximius.

Plusieurs especes de Fleurs Def-
ſinées & gravées d'après le naturel.

Paris. 1676. 4to.

ROBERTUS MORISONUS,

Scotus Abredonensis. Medicus
& Professor Botanicus Regius,
Hortique Botanici apud Oxo-
nienses Præſectus.Plantarum Historia Oxoniensis.
Pars ſecunda.Oxon. 1680. Folio. Vid. Sect. 4.
p. 367. §. 33.

JOHANNES RAIUS,

Anglus. Soc. Reg. & S. S. Tri-
nitatis Collegii apud Canta-
brigienses Socius.Historia Plantarum, Species ha-
tenuſ editas, aliasque inſuper mul-
tas noviter inventas & deſcriptas
complectens. 2 Vol. Folio.Vid. Vol. 2. Lond. 1688. lib.
21. c. 3. no. 9. p. 1142.

LEONARDUS PLUCNETIUS,

Anglus.

Almageſtum Botanicum, ſive
Phytographiæ Plucnetianæ Onoma-
ſticon.

Lond. 1696. Fol. Vid. p. 219.

JOHANNES WOOLRIDGE.

Anglus.

Systema Horticulturæ: or, *The
Art of Gardening. In three Books.*Lond. Edit. 4. 1700. 8vo. Vid.
p. 143.

JOSE-

JOSEPHUS PITTON
TOURNEFORT,

*Aquisextiensis. Doctor Medicus
Parisiensis, & in Horto Regio
Botanices Professor.*

Institutiones Rei Herbariæ.

*Parif. 1700, 4to. Vid. Claf. 9.
feet. 5. p. 386.*

OLAUS RUDBECKIUS,
*Pater & Filius, Sueci Upsalenses.
Pater Ob. 1703. Æt. 72.*

Campi Elyfii Liber Secundus.

Upsal. 1701. Folio. Vid. p. 93.

DIONYSIUS DODART,
*Gallus. Med. Reg. & Academ.
Parisiens. Soc.*

*Eftampes pour Servir a l'Histoire
des Plantes. Premiere Partie.*

Paris 1701. Folio.

JACOBUS GARDINER,
*Anglus. A. M. Subdecanus Lin-
colniensis.*

*Rapin of Gardens. A Latin
Poem in four Books English'd.*

*Lond. 1706. 8vo. Vid. Edit. 2.
p. 54. & Indicem.*

LUDOVICUS LIGER,
Gallus.

*The Compleat Florist: Or, The
Universal Culture of Flowers, &c.
Translated from the French.*

Lond. 1706. 8vo. Vid. p. 359.

ENGELBERTUS KÆMPFERUS,
Westphalus. M. D.

*Amœnitatum Exoticarum Fasci-
culi quinque.*

*Lemgovia 1712. 4to. Vid. Fas. 5.
Class. 4. p. 872.*

JACOBUS BARRELIERUS,
*Parifinus. Med. Doct. Parif.
& Ordinis Fratrum Prædica-
torum.*

*Plantæ per Galliam, Hispaniam,
& Italiam observatæ. Opus Post-
humum a D. De Juslieu editum.*

*Parif. 1714. Folio. Vid. p. 70.
& Icon. 126.*

CAROLUS EVELYN,

Anglus.

*The Ladies Recreation; or, the
Pleasure and Profit of Gardening
improv'd.*

Lond. 1717. 8vo. Vid. p. 120.

RICHARDUS BRADLEY,
Anglus. Soc. Reg. Soc.

*New Improvements of Planting
and Gardening, both Philosophical
and Practical. In three Parts.*

*Lond. 1718. 8vo. Vid. Part 2.
p. 123. feet. 7.*

*An Appendix to the New Im-
provements of Planting and Gar-
dening.*

Ibid. 1726. 8vo. Vid. p. 53.

HER-

HERMANNUS BOERHAAVE,

*Batavus. Medicinæ, Chemiæ, &
Botanices Professor in Acade-
miâ Lugduno-Batavâ.*

Index alter Plantarum quæ in
Horto Academico Lugduno-Batavo
aluntur.

*Lugd. Bat. 1720. 4to. Vid.
Part 2. p. 147.*

JOHANNES LAURENCE,

*Anglus. M.A. Rector of Bishop's-
Weremouth in the Bishoprick
of Durham, and Prebendary
of the Church of Sarum.*

*A New System of Agriculture;
being a Compleat Body of Husban-
dry and Gardening.*

*Lond. 1726. Folio. Vid. chap. iv.
p. 424.*



A D E-

A
DESCRIPTION
 OF THE
GUERNSEY LILLY.

NOMEN.

Lilio-Narcissus Sarniensis Autumno florens :
Lilium Sarniense vulgo,

OR THE
GUERNSEY LILLY.

SYNONYMA.

N *Arcissus Japonicus rutilo flore* - - CORNUT.
Narcisse du Japon - - - - MORIN.

Narcissus of Japan
The Garnsey Lilly
The Japan Lilly
La Belle de Nuit Sarniensib. } - - - - J. EVELYN, sen.

Narcissus Japonius, ou Narcisse du Japon RAPIN.

Narcissus of Japan, or Garnsey Lily
Indian Daffodil of Garnsey - - - - } REA.

B

Narcissus

Narcissus Indicus rutilo flore Scintillis aureis } JONQUET.
asperso - - - - -

Purple Narcissus of Japan - - - - - J. EVELYN, jun.

Narcissus Japonia rutilo flore - - - - - ROBERT.

Lilio-Narcissus Japonicus rutilo flore - - - MORISON.

Narcissus Japonicus Cornut.

Japanist. Maug blomek Narciss med }
hogrode blomer. - - - - - } RUDBECK,

The Guernsey Lilly - - - - - GARDINER.

Seki san, Sibito banna, doku Symira Japo-
nice.

Asphodelus radice simplice bulbosa tunicata,
venenosa, flore sanguineo, multiplo, e cau-
lis fastigio verticillatim in orbem radiante. } KEMPFER.

Lilium Sanguineum pumilum flore multiplo. }

Lilio-Narcissus Indicus, polyanthos Cocci-
neus minor - - - - - } BARRELIER.

The Lilly of Japan - - - - - C. EVELYN.

Japan Lillie - }
Guernsey Lillie - } - - - - - LAURENCE.

La Belle de Nuit
La Belle Guernzey
La Belle Guernsey
The Indian Flower - } *Sarnia Incolis.* - KNOWLTON.

La Grenesienne
La Guernaisienne - - } *vulgò Gallis* - D. B. de JUSSIEU.

ET Y M O.

ETYMOLOGIA.

THE foregoing List of Names, which are all that I have either read or heard to have ever been given to this Plant, are made up of such as are taken from *Genera* of plants, to which it has been thought to belong; from the *Locus Natalis*, or countries where it grows in greatest plenty; and from something belonging to its flower.

OF the first kind are, *Narcissus*, *Lilium*, *Asphodelus*, & *Lilio-Narcissus*. The plants which come under the three first of these denominations differ very widely from one another. The fourth is a name compounded of the first and second, and is attributed only to such plants as agree in some things with them both. The *Guernsey Lilly* is undoubtedly of this number; as is now generally acknowledg'd by the writers on Botanical Method.

IT agrees with the *Narcissus*.

1. IN its root which is tunicated, or made up of several distinct coats.
2. IN the shape and colour of the leaves.
3. IN the nakedness and figure of the flower-stem.
4. IN the *Perianthium*, or flower-case; only in this plant, that consists of two parts, whereas in the *Narcissus* it is single.

IT resembles the Lilly.

1. IN the number of *Petala*.
2. IN the figure of the seeds, tho' the disposition of them be a little different.
3. IN the *Vasculum Seminale*, or seed-vessel.

I HAVE here only mention'd the agreement of the *Guernsey Lilly* with the *Narcissus* and *Lilium*, in things that are peculiar

liar to each of these *Genera*, without insisting on what it has in common with them both; and therefore it is unnecessary to show, by any more particular deduction, wherein it differs from either. I shall only add a passage much to the same purpose from Dr. Morison's Introduction to his account of the *Lilio-Narcissus*. *Quia flores producunt, says he, Liliorum instar, capsulasque pariter eorundem capsulis similes, seminaque itidem conformia Liliis, Lili nomen in compositione præfiximus; quia denominatio omnis debet a nobiliore & potiore parte desumi, atque flores & capsulae seminales, ipsaque semina primatum in omni genere obtinebunt. Sed quandoquidem radices omnium harum infra describendarum plantarum sunt perfecte bulbosae & multis pelliculis seu tunicis majoribus involventibus minores præditæ, Narcissorum reliquorum more, non autem squamosæ vel squammatæ Liliorum proprie dictorum modo, nec aptiore titulo Lilio-Narcissos designavimus; quoniam utriusque Lili scil. & Narcissi naturam participant nomen sic compositum obtinebunt.*

THE countries from whence this plant has been denominated, are the Islands of *Japan* and *Guernsey*. From the first it hath borrow'd the epithets of *Japonicus*, *Japonius*, and by a more indeterminate way of speaking, the name of the *Indian Flower*. The *French Grenesienne*, &c. comes from *Guernsey*, which in *Latin* has sometimes been translated *Grenesis*, as we are told by *Adrianus Valesius* in his *Notitia Galliarum*, publish'd in 1675. *Grenesis*, says he, in explication of some *Latin* verses quoted by him, *est Grenesey insula Anglis subjecta*. To this island likewise we owe its common *English* name, the *Guernsey Lilly*, which I have ventured to render *Lilium Sarniense*, on the authority of the Learned *Cambden*, who tells us, that *Sarnia* is the *Latin* name us'd by *Antoninus*, in his *Itinerarium Maritimum*, to express the island of *Guernsey*. In two editions of that Itinerary which I have consulted, one publish'd by *Longolius* in 1512, and the other with *Sirita's* Commentary in 1600, I find *Sarnia* and *Sarma*, as well as *Sarnia*, all equally justify'd by the manuscripts; but according to *Cambden*, the last is to be preferr'd; and that likewise is all the reason I pretend to have why *Sarnia* means *Guernsey*, rather than any other island in the *British Channel*; since *Antoninus* only mentions it as one of the islands in *mari oceano quod Gallias & Britannias interluit*.

THE foundation of the third class of names, taken from the colour, beauty, or any other remarkable quality in the flower,

flower, is too obvious to any who have either seen it themselves, or shall read my description, to need an explication in this place. And therefor to conclude this head of *Etymologies*; all I have further to say is, that I have transcribed the *Japan* names as I found them in *Kæmpfer*, who observes that the last is taken from a poisonous quality, which the inhabitants of that island have discover'd in the root of this plant. *Doku symira*, i. e. *venenosa symira, ob bulbum venenosum dictus*; and the second, from its growing in great plenty in burying grounds. *Sibito banna appellatur, quasi dixeris mortuorum florem, quod in cæmiteriis plurimum crescat*. In fine, I cannot but think the *Guernsey* name, *La Belle de nuit*, very ill chosen, this flower never appearing in its greatest beauty but when view'd in the fun.

LOCUS NATALIS.

THE original *Locus Natalis*, or place of growth of this plant, is *Japan*. There *Kæmpferus* saw it growing, and describ'd and delineated it upon the spot. *Cornutius* observes concerning the first roots that were ever known to be in *Europe*, that they came from these islands; and from thence it has been propagated to all the countries where it grows at this day, in the manner we shall hear in the next article.

FOR a description of this Empire, I refer the reader to the accurate history thereof written by *Kæmpferus*, and lately publish'd in *English*, in two volumes in *Folio*, by the ingenious Dr. *Scheutzer*. I need only observe here, that it is placed by that Author between the 31 and 42 degrees of Northern Latitude.

HAVING found its way from *Japan* into *Europe*, this plant settled chiefly in *Guernsey*, where it continues still in very great plenty; and from whence it not only first came to *England*, but almost yearly supplies of roots have been sent us ever since. With respect to us therefor, this island may be reckon'd its original native place of growth, as well

as *Japan*. *Guernsey* is a small island about 21 miles in circumference, situated in the *British* channel, in the latitude of 49 degrees 39 minutes; 54 miles from the nearest point of the coast of *England*, 27 miles from that of *Normandy*, and 20 miles north-west from *Jersey*. A pretty full account thereof may be collected from *Cambden*, and the additions to that author, published by Dr. *Gibson* now Lord Bishop of *London*; and from Dr. *Heylin*'s survey of the two islands *Guernsey* and *Jersey*, added to his survey of the estate of *France*, publish'd 1656. Dr. *Gibson*'s additions were communicated by the Reverend Mr. *Fall*, minister in *Jersey*, to whom likewise we owe a very exact description of that island.

History of this PLANT's coming into Europe, and particularly into GUERNSEY.

CORNUTIUS, the first author who mention'd the *Guernsey Lilly* by the name of *Narcissus Japonicus*, gives us likewise an account that it was brought from *Japan* to *Paris*, and cultivated in the garden of one *Johannes Morinus*, a great lover of flowers, and who spared no pains nor cost to procure curiosities of this kind from all parts. This happen'd a few years before 1634, and it is the first time that we hear of its ever coming into *Europe*. *Inter omnes Narcissos*, says that author, *qui hactenus inveni apud nos extiterunt, prima, ut arbitror, auctoritas nobilissimo huic generi debetur; quod paucis abhinc annis ex Japonia allatum, strenui admodum & nullis sumptibus parcentis viri Joannes Morini cultura, tandem in florem profecit septimo mensis Octobris anno Domini 1634.*

THIS garden of *Morinus*'s, the first place in which we are sure that the *Guernsey Lilly* was ever planted or seen to flower in *Europe*, was famous for the uncommon exotick plants contain'd in it a great many years after this time. For Dr. *Morison* in his *Historia Oxoniensis* takes notice, that among others, he saw there
the

the *Narcissus Indicus sphaericus flore liliaceo* of *Baptista Ferrarius* in 1657. It is probable that the *Guernsey Lilly* continued likewise to thrive and multiply in it, and that from thence it was transplanted to the Royal Garden, where it certainly was before the year 1666, and perhaps to other places in *France*, seeing *Father Rapin* so strenuously recommends the frequent cultivating of it; but since that time, roots have been often sent thither from *Guernsey*.

IN a very curious manuscript *Florilegium*, which belong'd to the late Dr. *John Friend*, wherein the figures of the flowers are drawn from plants that grew at *Fulham*, beautifully illuminated, and dispos'd in the order of the seasons in which they blow, all done by one Mr. *Marshall*, a relation of Dr. *Friend*'s, I observ'd among the Autumn flowers a figure that every way resembles the *Guernsey Lilly*, with only this note upon it: *This flower was sent me by General Lambert, August 29. 1659. from Wimbleton*. On most of the other figures are the names of the plants which they represent, in *Latin*, *English*, and *French*, which shows that the *Guernsey Lilly* was then so very little known in *England*, as even to be without a name. But in the year 1664. it was grown more common among us, being then call'd the *Guernsey Lilly*, as appears from *Evelyn's Calendarium Hortense*.

WHEN, or in what manner, it came first into *Guernsey*, it is not an easy matter to determine. The accounts which have been publish'd concerning these two particulars, as well as those which I have receiv'd from the gentlemen of that island, are all very different from one another, and many of them contradictory; but before I pretend to give my own opinion, I shall set down all these various accounts at large, that the reader may be fully in a condition to compare them with one another.

THE first, in order of time, is that related by Dr. *Morison*. A *Dutch* or *English* ship, says he, it is uncertain which, bound from *Japan* with some of these roots on board, was cast away on the island of *Guernsey*. The roots were thrown on the shore, and by the winds soon bury'd in the sand. There they remained for some years, and afterwards, to the great surprize and admiration of the inhabitants, the flowers appear'd in all their pomp and splendor. The honourable Mr. *Hatton*, who was some years after on that island, his father, the Lord *Hatton*, being governor there, took care to send roots to a great many Florists in *England*. *Ejus radices*

radices ex Japonia allatæ & ex nave naufraga Batavica an Anglica incertum, ejectæ in littus arenosum insulæ Guernsay ditioni serenissimi Caroli secundi subjæctæ; ibi, inquam, bulbi incuria projecti in littus arenosum inter sparta maritima, & vento fortiore arenam eo pellente; qua demum prædicti bulbi tecti post aliquot annos summa cum incolarum admiratione flores rutilos amplos & elegantes sponte dederunt. Hoc flore detecto, aliquot annis postea radices plurimas communicavit Botanicis & elegantium florum cultoribus dominus Carolus Hatton filius natu secundus nobilissimi viri Christophori Hatton, Baronis de Hatton, & insulæ Guernsey prædictæ gubernatoris.

THE next printed relation is that of the Reverend Mr. *Laurence*. It is not above half a century, says he, since this delicate plant was brought over to us from the *Indies*, when it was first call'd the *Japan Lillie*. But afterwards as the merchants trading from thence, and unloading at the island of *Guernsey*, the ballast in which lay accidentally and confusedly many of these roots, they obtain'd the name of the *Guernsey Lillie*.

A third story we owe to Mr. *Bradley*. There is one thing more, he says in his late *Appendix*, which I cannot help taking notice of which relates to this plant's first coming into *Guernsey*, which was told me by M. *de St. Marets* [*Saumarez*, it ought to have been] a very curious gentleman of that place: He says that in his grandfather's time, a ship from *China* came in there, when some of the sailors gave a parcel of these roots to a person who then kept a publick house: this gentleman tells me, that from thence came the whole stock that is in the island, and that the place is now in being close by the sea. This story differs indeed from that which we have had of a ship's being cast away, and the roots swimming to the shore and there taking root; but I think this traditional account of Mr. *de St. Marets* is the more probable of the two.

THESE three accounts have been printed, and to them we have still to add other traditions of the inhabitants of *Guernsey*, which have come to my knowledge by letters, or by the information of my friends.

A gentleman communicated to me lately a story which came some years ago from that island, and which the persons who sent it ascrib'd to Mr. *Bobart*, Dr. *Morison's* successor in the profession of *Botany* at *Oxford*. It is in these terms: A ship
being

being lost on our coast coming from the *West-Indies*, the country people among other things thrown upon the shore, found some bulbous roots which they took to be onions. They accordingly set them in their gardens, and were agreeably surpris'd a year or two after to see so beautiful a flower spring up from what they took for an onion.

ANOTHER gentleman, one of the first rank in the island, writes to a friend to this purpose. We are so ignorant, or rather so little acquainted with the history of that beauty of the flowering tribe, that with all the inquiry I have been able to make, as well before as after the receipt of your first letter, I have not been able to meet with any that can so much as fix the time when it was cast on our shore by meer accident, (for certain it is that we have a tradition throughout the island, that we are oblig'd to a shipwreck for this flower) but from whence that ship came is what I have not as yet been able to learn, no more than if there was any body sav'd, that could give you that account of it.

IN a second letter the same gentleman adds, the account you mention in your's of their having been in the island but sixty years, is by no means to be depended on; for it is so certain that they have been known to grow here time out of mind, that were it not for that tradition of their having been made a present to us by a wreck, there is no body but what would believe that they originally grew here, and were never transplanted hither from *India* or *Japan*; but when that was done, if ever it was, 'tis so long ago that it would be in vain to attempt so much as fixing when it was.

ANOTHER gentleman, in answer to this query which we sent him, whether the *Guernsey Lilly* was in that island before the restoration of King *Charles* the second; and if so, whether any good proof can be brought, to confirm it; tells us, that to fix the time of the *Guernsey Lillies* origin in that island is a task if not altogether impossible, yet extremely difficult; when or how it came there will, I believe, be always a secret. But notwithstanding their first coming among us be uncertain, yet it is undoubtedly certain that we have been in possession of this beautiful flower upwards of a century, nay perhaps two or three. I have enquir'd of many persons now above eighty and ninety years old, and persons of very good sense, who have all confirm'd that

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they ever knew that flower in the island; and that in their youth it was a receiv'd opinion, it had been among us even then a great while. If any enquiry of this nature had been made thirty or forty years ago, I am perswaded it would have been found of a very old standing.

AMONG other enquiries which Mr. *Knowlton* made in *Guernsey*, one was concerning the time and manner of the Lilly's first coming thither. One gentleman inform'd him, that they must certainly have had it time out of mind, because a man who died but a little while before, being near an hundred years of age, remember'd to have seen that flower in great plenty during all his life-time; and even then, no body kenw any thing of its first coming, which had it been but lately before he was born, he thinks must have been in every bodies mouth; so that it must have been at least two hundred years ago. The same gentleman told him further, that it was the general opinion in the island that they owe this beautiful plant to a shipwreck, and some roots being cast on shore by the waves were pickt up by the inhabitants taking them to be Onions, and accordingly planted in their gardens for such.

ANOTHER gentleman told Mr. *Knowlton*, that a ship from *Japan* being cast away on that island, or oblig'd to put in there by stress of weather, a passenger who had a good number of these roots on board, made a present of some of them to a gentleman by whom he had been very kindly receiv'd; telling him withal, what beautiful flowers they would yeild him in a few years. The gentleman took care to have them planted, but no flower appearing in three or four years afterward, he order'd them to be dug up and thrown away with other rubbish into a corner of his garden; and there he had the pleasure of seeing them flower, at a time when he least expected it.

FROM a third person he learn'd, that his own mother, who had been a great lover and curious observer of this flower in her younger days, could remember perfectly well, that sixty years ago they were as common in the island as they are at this day; and that even then it was a custom to send presents of roots to *England*. This gentleman added further, that had this plant come into their island so lately as
Dr.

Dr. *Morison* pretends, he does not see how it is possible the roots should have multiply'd so prodigiously, as that they could afford to send such vast quantities of them every year to *England*, besides the immense number always to be found in the island.

SINCE Mr. *Knowlton*'s return from *Guernsey*, he has been at pains to find out Mr. *Henry de Saumarez*, a native of that island, and well known for his invention of the *Marine Surveyor*, an instrument design'd to correct the errors of the common log in reckoning a ship's way; and this ingenious gentleman acquainted him, that the person who entertain'd and receiv'd a present of these roots from the foremention'd passenger from *Japan*, was his own grandfather; (not one who kept a publick house) that these roots were but six in number, tho' the whole stock in the island has been rais'd from them; and that as near as he can guess, from what he remembers to have heard his grandfather say when he was a boy, this must have happen'd about fourscore years ago.

IN fine, Mr. *Knowlton* assures me that it is an universal tradition in *Guernsey*, that this flower was first brought them from some part of the *East-Indies*; and that for this reason, it has alwas gone amongst them by the name of the *Indian Flower*.

THIS is all I have hitherto been able to learn, either about the time or manner in which this Plant came first into *Guernsey*; and a very short survey of all the accounts here set down, will be sufficient to convince us, that Dr. *Morison*'s is intirely to be depended on; and the others rejected, as far as they are inconsistent therewith. For it is very evident, that as Dr. *Morison* had innumerable opportunities of asking Mr. *Hatton* about the truth of what he relates in every material circumstance of it, his account must either be exactly true, or all of it a meer fiction of his own or of Mr. *Hatton*'s. This gentleman could not surely have forgotten, at the time that Dr. *Morison*'s history of plants was publish'd, what happen'd to himself in so singular a manner, and in relation to a Study which of all others was most dear to him, he being not only a great patron of Botanical Learning, but esteem'd so good a judge in it himself, that the late famous Mr. *Ray* was not afraid to own, that it was by his advice and direction he undertook his great history, and therefor thought him the most proper person to inscribe it to.

NEITHER

NEITHER could Dr. *Morison* have mistaken Mr. *Hatton's* meaning, in any remarkable circumstance of this story, Mr. *Hatton* having once been his scholar, while he was Director of the Royal Garden at *Blois* in *France*, and having continu'd in strict friendship with him ever afterwards. Both these particulars are very well known to a great many people still living, and appear likewise by an inscription under his coat of Arms, upon plate 1. sect. 14. of the third part of Dr. *Morison's* history, in these words; *Auspiciis Honoratissimi & Doctissimi D. D. Caroli Hatton, Filii Domini Hatton Baronis Liberi Angliæ, Scientiæ Naturalis Cultoris & Fautoris Eximii, Authoris olim in Botanicis discipuli.*

THERE being no medium therefor between the intire truth of this story, or its being intirely a fiction; one or other of these must necessarily be said. But with what colour of probability can any one suppose, that Mr. *Hatton*, a gentleman of undoubted veracity, could ever think of inventing such a falsehood; or that Dr. *Morison* had so small a share of common sense, or of regard to his own reputation, as to publish it to the world, at a time when he was sure to be contradicted by that very person whom he mentions as having had the principal hand in it. This is a way of arguing about the credibility of testimony, which in all cases to which it is applicable is look'd upon as infallible; and therefor obscure and indeterminate traditions, tho' much more universal than those we have here to do with, can be of no manner of force against it. Capt. *Hatton's* testimony alone in this matter, where he was either an eye-witness to the whole, or at least deserves, by us, to be look'd upon as such, is of more weight than that of any number of persons can be at present. The dates of facts are easily obliterated in the minds of those who are at no pains to preserve them; and many traditions of this kind pass for immemorial, that are of a more recent original than this we are now talking of.

Dr. *Morison's* account of the manner in which this plant came first into *Guernsey*, is as plain as words can make it; the time he has not express'd so distinctly; but as Mr. *Hatton* was undoubtedly in that island soon after the Restoration, and this plant had been in flower some years before, and the

the roots cast a-shore some years before that, we cannot suppose this accident to have happen'd much later than fourscore years ago; and on the other hand, Mr. *Hatton's* death, which fell out here in *London*, within a few years past, tho' he liv'd to a very great age, will not allow it a much earlier date.

AFTER what has been said, it will not be worth while to take much farther notice of the other accounts here set down; I shall only compare them in a few words with that of Dr. *Morison*, and with the general principles made use of in proving the truth thereof.

Mr. *LAURENCE's* story is certainly false in every circumstance, and has not so much as the least tradition from *Guernsey* to support it. No account from thence mentions any thing of these roots coming thither in the ballast of ships. This plant has been known in *England* above sixty years, and there is not any colour of probability that we had it at first directly from the *Indies*, or before it was known in *Guernsey*.

TO make Mr. *Bradley's* story compleat, we must join with it what Mr. *Knowlton* heard likewise from Mr. *de Saumarez*; and then, as to the time, it will agree very well with Dr. *Morison's*; as to the manner, the same ship might be bound both from *Japan* and *China*; and tho' a passenger who was cast away upon that island, or some sailors, might present some of the roots either to M. *de Saumarez's* grandfather, or to a person who kept a publick house, others may have lain neglected on the shore and there taken root and flower'd. And lastly, M. *de Saumarez*, I believe, cannot now positively say, that the ship which brought them was not cast away, which is the only thing in his account which contradicts Dr. *Morison's*.

THE next story, father'd on Mr. *Bobart*, is very lame and imperfect, but does not contradict Dr. *Morison's* in any material circumstance. It was easy for a person unacquainted with trade, to mistake an *East-India* ship for one coming from the *West-Indies*; and tho' the people of *Guernsey* planted some of the bulbs in their gardens, others, as I have already said, might be left on the shore; or they

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might have been seen to flower there before any care was taken to plant them.

THE remaining accounts agree all in this, that a ship being either cast away or forc'd into *Guernsey*, by stress of weather, brought them these roots at first; and that this ship came either from *Japan*, or some other part of the *East-Indies*. This, and whatever else they contain about the manner of this plant's first coming, may be easily reconcil'd with what we have heard from Dr. *Morison*. The only difficulty is about the time; which most of them carry a great deal farther back, than what that author's account can possibly allow of. As to this it will be sufficient to add to the foregoing general observations, That when I caus'd the first enquiries to be made amongst the gentlemen of that island, they were perfectly at a loss what to answer; frankly owning, that no body there knew any thing about the time of their *Lilly's* first coming. This shows plainly enough, that they have been at no pains to preserve the memory of this remarkable accident, and therefor that their testimony is no further to be regarded in this matter, than it ought to be as to any other indifferent fact which falls within the ordinary course of a man's own remembrance. And even the most aged among us may soon be convinc'd, that this is very far from reaching fourscore years backwards. The most that can be made of all that they have since learn'd from old people in the island is, that as long as they remember any thing which they took no pains not to forget, they remember that the *Guernsey Lilly* was common amongst them; and that the most aged with whom they convers'd at that time, never told them that they had been witnesses to its first coming. All this may be, and undoubtedly is very true; but it might have been equally so, had they never seen this plant till after the Restoration, as might be prov'd by an infinite number of parallel instances among ourselves, of things which are every day the subject of common conversation.

THE only remaining argument which is to be found in all their accounts is, that in so short a time as sixty or fourscore years, these roots could not have multiply'd so fast, as to furnish such large quantities as are every year sent abroad, besides the stock which is still to be found in the island. But from what I shall afterwards say concerning the increase of the roots,
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it will evidently appear, that tho' there had been but fix brought to the island at first, they might, by this time, with due management, have fill'd the gardens of the whole island (not only of *Guernsey*, but) of *Great Britain*.

To compleat this history of the *Guernsey Lilly*, I have only further to observe, that it is now cultivated in several places of *Holland*, and that that country is oblig'd for this present to a gentleman of *Guernsey* then student at *Leyden*. In what manner this happen'd he himself has been so kind as to inform us in a letter to a friend in *London*. There is something more, says he, that I am able to acquaint you with that I hope will more conduce to your satisfaction, for which you have no manner of obligation to me but to the *Botanick* professor at *Leyden*, from whom I had it while I was there, and who prehaps, if living, would give you more insight into this than any body; for that gentleman was very curious of every thing of that kind, and having never been able to get a sight of any, I was desir'd to befriend him in it, which I did by sending over for a handsome parcel, which came all in the full glory of their bloom, which he no sooner heard was come, but he appointed the very next morning to receive them academically, by bestowing upon them a publick lecture in the *Botanick* garden there, and laying them up with all solemnity in the green-house, taking occasion in his lecture to thank me publickly, and in the most obliging manner, for the valuable present I had made to the university. He did give an account also very handsomly of that flower, and made mention of an author that I believe is most nice in his description of it, viz. *Rapinus de Hortis*.

THIS I am apt to think was the first time that the *Guernsey Lilly* was ever seen in *Holland*; the year is not mention'd in the letter; but as the gentleman has since call'd to mind that the professor was the celebrated *Dr. Hotton*, it must have been some time between the years 1695 and 1709; during all which time he fill'd the *Botanical* chair in *Leyden*. The Plant continues still to thrive in that garden, and from thence it has been transplanted to many other places. *M. La Cour*, an ingenious Gardener and Nursery-man in that city, has a great number of them in flower every season.

Genus & Notæ Characteristicæ.

UNDER this head I propose no more than barely to enumerate the several ways in which this plant has been class'd or rank'd since the invention of what is call'd Botanical Method.

I**N** Dr. Morison's History of Plants, it belongs to the third distribution of the fourth section, as being one of the *Hexapetalæ tricapsulares radicibus bulbosis proprie dictis præditæ*; to the *Narcissus* as a *summum genus*, the *Lilio-Narcissus* as a *genus subalternum*; and to the *Lilio-Narcissus ruber*, as a *genus infimum*.

I**N** Mr. Ray's history it comes immediately under the *Lilio-Narcissus* as a *Genus*, and the characteristick note thereof, as laid down in his table, amounts to this, *Herba radice bulbosa tunicata odore nullo aut minus gravi prædita, flore hexapetalo, floribus folliculo seu perianthio inclusis, summo pericarpio insidentibus, majoribus, liliaceis*.

THIS differs in nothing from what we find in his first essay on Method; but in his last work on that subject, his *Methodus emendata & aucta*, the *Lilio-Narcissus* wears a Characteristick very different from the former. It is there rank'd under the first *Genus* of the *Herbæ monocotyledones* among the *Herbæ graminifoliæ floriferæ, vasculo tricapsulari, radice bulbosa*; and the rest of its note consists in its being *flore hexapetalo summo fructui insidente*, or as he afterwards expresses it, *floribus liliaceis, capsula Narcissi ut & radice*.

TOURNEFORT has class'd it among the plants *flore liliaceo*, in that section of these which are *flore liliaceo ex petalis sex composito cujus calix abit in fructum*; and under the *Lilio-Narcissus* as a *Genus*, of which he gives these notes, *Lilio-Narcissus est plantæ genus flore Liliaceo ex petalis sex composito lili æmulo. Hujus autem calix, seu embryo, abit in fructum Narcissi fructus forma.*

forma. His notis addenda est radix bulbosa, tunicata qua differt a Lilio, a Narcisso vero flore polypetalo.

BOERHAAVE places it among the *Plantæ monocotyledones foliis seminalibus carentes, bracteatae*, in the fifth order thereof containing the *Hexapetalæ, triloculares, quarum flos insidet ovario*; and under the *Lilio-Narcissus* as its immediate Genus, of which he gives us the Characteristick in these words.

Radix bulbosa tunicata.

Flos Liliaceus, Hexapetalus, Lilio-Asphodeli æmulus, ex theca emergens membranacea, ut in Narcisso.

Fructus subnascitur flori formâ Narcissi, oblongus, vel subrotundus, trigonus trifariam debiscens, sætus seminibus subrotundis.

R A D I X.

Bulbosa, tunicata, seu ex multis candidis conflata pelliculis sibi mutuo incumbentibus, & filamentorum transversalium interventu connexis.

Ventre rotundiore in collum longiusculum, ut plurimum, attenuato.

Numerosis albisque fibris comata, a basi oriundis, & in fibrillas tenuiores laxatis.

Membranaceo quasi involucro obducta & infuscata.

Perennis & vivax, singulis annis novas soboles emittens.

THE root of this beautiful plant is of the bulbous, tunicated kind; made up of many smooth, thin, juicy coats, rinds, or shells drawn or cas'd over one another, surrounded by some membranous *involucra*; and arising from a round basis or trunk which likewise sends out several *radiculæ*, or fibres.

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To begin by the *involucra* which first present themselves to our view ; these are nothing else but the outer coats of the bulb gradually dry'd and wither'd, the outermost being always more shrivell'd than those which lie within it. The number of them is uncertain, but always different according to the age of the root, one or more new ones being form'd every year. The external is only a dry skin or film, of a light brown colour, thin and pretty smooth on the inside, covering the whole bulb and lower part of the neck. The others are much finer membranes, and of a whiter colour, decreasing in thickness in proportion as they are remov'd from the juicy coats of the bulb. When these *involucra* are perfectly dry, we may observe several vessels like threads running parallel and at equal distances upon them, from below upwards.

THESE cases being remov'd, the root itself comes next to be examin'd, and it may be divided into two general parts, the body and neck.

THE figure of the body, or bulb, when the roots grow single, is every where similar, and resembles an oblong spheroid depress'd at both ends, tho' most at the lower end. But when it hath sent out off-sets of three or four years growth, as the bellies of these begin to swell, they press upon the mother-bulb, and so flatten these sides of it which they touch. Thus according to the number of such off-sets, of which below, these sides are form'd into so many different planes, join'd at angles more or less obtuse. When the off-sets are large and numerous, they receive the same impressions from one another which they made on the root from whence they sprung, and to this alone is owing all the variety of figures observ'd in them ; to be satisfy'd of which, we need only view a bunch, or group of roots that have stood some years in the ground without being transplanted.

IN a full grown well fed root, the middle or thickest part of the bulb is about six or seven inches in circumference. Some are bigger but the far greatest part are much less. And in a bunch or cluster of roots which I took out of the ground about the middle of *November 1724*, consisting of six off-sets, all proceeding from one root, the circumference and weights were as follows.

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1. THE largest, or mother-root, measur'd six inches and a quarter.
2. The next five inches.
3. Four inches and a quarter.
4. Four inches and an eighth.
5. Three inches and an eighth.
6. Three inches and a quarter.
7. Three inches.

THE weight of the mother-root was three ounces and a drachm.

2. One ounce, two drachms and an half.
3. One ounce, one scruple.
4. Six drachms and an half.
5. Half an ounce and one scruple.
6. Half an ounce.
7. Two drachms and an half.

THE narrow part of the root which lies between the bulb, and appearance of the leaves or stalk, is the neck, on which we may commonly observe the endings of four or five of the inner *Laminæ* or coats, of which the bulb is compos'd.

IT is not round but flattish, being adapted to the figure of the leaves or stalk that lie within it; and it is seldom above two inches in circumference at the biggest part, ending always somewhat narrower than where it began.

THE length of the necks is extremely various, but always in proportion to the depth of the root under ground; from thence it happens that in those which have stood nearest the surface of the earth, the necks are sometimes not above half an inch long; but in some which have stood very deep, I have found it to measure above five inches and an half.

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THE tendency of the neck is always directly upward as much as the situation of the bud will permit it, and therefore in all the roots which lie near the middle of a group, it comes out from the middle of the upper part of the bud; in those that lie farther from the center, the neck arises something to one side, and when the bulbs lie very obliquely, it is bent or incurvated, in order to shoot afterwards directly upwards.

Now if we add these varieties in the situation and figure of the necks to those of the bulbs already mention'd, we will find some roots taken all together, to resemble nearly a chymical matrafs, such I mean as have long streight necks and round bellies; others, a glass receiver where the necks are short and thick; others in fine, a retort, in which the necks are crooked; besides other lesser differences which will not so well admit of a comparison, as will appear by the annex'd figures of roots.

FROM this general view of the root it is now time to proceed to the particular parts whereof it consists, which are the basis, tunicks, and fibres.

THE basis or lower part of the root, call'd by the learned *Malpighi* (in plants of this kind) *truncus radicalis*, is a solid and hard body, of a round figure, from whence the *tunicæ*, leaves, stalk, *fibrillæ* and off-sets do all arise. In breeding roots it is very large; and when view'd on the lower side, it appears to be made up of two substances, one occupying the center, of a darker colour than the rest; another surrounding that, of a whitish yellow, and full of small holes from whence the fibres arise.

THE *Tunicæ* or coats in large roots are sixteen or seventeen in number, all covering one another; in the smaller roots their number decreases in proportion: each of them consists of a juicy pulp inclos'd between two very fine membranes, and break into innumerable small threads that may be drawn out to a considerable length, which can be nothing else than the several *fasciculi* of vessels belonging to them. They are likewise kept tight, and bound close in their places, by means of small short transverse fibres, together with a slimy, viscid, roapy humour, that moistens their sides and glews them as it were to one another.

THEY

THEY may very well be divided into round and longitudinal. The first are those which form the belly of the root, being generally, as all the rest are, of a white colour, tho' in some roots I have observ'd them all to be red more or less. The remaining coats I call longitudinal, because they are carried straight up from the basis within the others, without swelling or bulging out. They compose the greatest part of the neck, and immediatly cover, support, and strengthen the leaves, like so many cases ending in different planes.

THE top of both these sorts of coats is tipt and lengthen'd out by a kind of dry shrivell'd thin skin or film with straight fibres, being the two membranes of the coats without the pulp or middle substance. They easily separate from one another, and always appear to be torn or ragged.

IN a flowering plant, the disposition of these *tunicæ* varies a little. Both leaves and stalk are cover'd by all the round, and a few of the longitudinal coats. When these are remov'd there appears on the out side of the stalk, a half coat very thick, and bunching out a little at bottom; but it grows thinner as it rises higher, and the top of it is tipt with a thin dry skin like the rest. The leaves are cover'd apart by several longitudinal coats, much thicker at bottom on one side than in the other state, and indeed quite through, much stronger; Lastly, between the beginning of the stalk and the outermost of the proper coats of the leaves, arises a process in form of a wedge, very broad and thick at bottom, but narrower and thinner at top, between two and three inches in length. This process seems to me to be what is left of the other side of the case for the stalk already mention'd, but why these two should not have been continu'd as well as the other coats, is to me I own, as yet a secret.

WE have this further to observe about these coats, that they are all form'd from that part of the leaves which remain within the roots. From each edge of them is sent out a thin membrane, both which uniting, and growing thicker by degrees, make up the longitudinal coats, and afterwards, new ones succeeding within them from other leaves, they bulge out and grow into round ones, the outermost of these being in the mean time chang'd into *involucra*; and by the different proportion

tion of the number of these increafing and decreafing coats to one another, the growth of the root is advanc'd more or lefs, and at length brought to a certain pitch, which it never exceeds; and by this fucceffion of coats only is the root of this plant render'd perennial.

FROM the circular fubftance already describ'd in the bafis or heart of the root (as Gardeners call it) arife eight, ten, or fometimes twelve pretty large *radiculæ* or fibres of a white colour: Some of them are about the bignefs of a goofe quill, fix or feven inches in length, efpecially when not confin'd in pots; the reft much fhorter.

THEY confift of a thick coat, within which lies a flimy mucilaginous fubftance, and that again furrounds a whitifh nerve or large *fasciculus* of veffels.

FROM moft of thefe, near their extremities, arife feveral *fibrillæ*, or fmall frings of the like texture with them, being from one to two and three inches in length; and by all thefe the plant draws its nourifhment from the earth.

IN roots that remain in the ground, fome of thefe *radiculæ* continue above a year, others are only annual. But if expos'd for any time to the air, they all decay; new ones fpringing out about the middle of *July*, or later in the following feafon: In the ground they push out very faft, and before any leaves are to be feen, their firft appearance being in form of little young horns, plac'd round the bafis of the root. About the middle of *September*, I pull'd up a large root which had been planted the *July* before; and I obferv'd the new fibres to be both thick and long; fome of the old ones were likewise ftill remaining, but they appear'd like fo many thin fkins or floughs of worms, all the inner fubftance of them being decay'd.

THESE roots are multiply'd by off-fetts, which arife from the bafis of the old root at firft by a fmall *gemma*, within one or more of the juicy coats, which at length breaking through as they grow larger, and thefe coats afterwards drying away, they appear wholly without the other. The number of thefe off-fetts is not the fame in every root; I have obferved from one to five of different bignefs in the fame feafon, and laying under different *strata* of the coats whereof the roots are compofed. These

These first off-sets come in time to send out others, and thus large clusters, bunches, or clumps, as the Gardeners term them, of roots are form'd.

OF these I had one lately sent me from *Guernsey*, which having carefully taken asunder, I found to contain about two hundred roots great and small, which came all originally from one mother, in the space of ten or eleven years, as the gentleman in whose garden it grew well remembers.

BEFORE I separated this group, I caus'd the earth to be clear'd away from it, as much as could be done conveniently without tearing the roots, and I found it to weigh eighteen pounds eleven ounces of common weight.

IT was nearly in the shape of a blunt cone inverted, the basis bulging a little out, by the roots in the middle being thrust upwards, and the greatest circumference was thirty six inches, the least (upon all the space within which it stood) twenty six inches; and the circumference measur'd length-wise, or in a plane perpendicular to the horizon, thirty one inches. The height was but nine inches, and the greatest diameter twelve.

By these dimensions, compar'd with the number of roots contain'd in the group, the manner of their growing together and multiplication will be better understood than by a tedious description.

F O L I A.

F O L I A.

Narcissinorum æmula.

Viridia, & glabra, in apice retusa.

Externe convexa, interius concava.

Palmari longitudine, latitudine semiunciali.

*E radice fundo, seu basi communis obtusum
referente, a latere caulis, serius autem erum-
pentia.*

*Pleraque recta, nonnulla humi procum-
bentia.*

THE leaves, both of flowering plants and of those that do not flower, arise from the very middle of the basis or lowest part of the root, and are continu'd up through the bulb, ascending in a straight line, involv'd in all its coats; three or four of which accompany them to the extremity of the neck, serving as a case to support and strengthen them while tender and weak.

THAT part of the leaves which is above the root is of a dark willow-green colour, but withal appearing, as it were, lucid or shining. That part which lies within the root is of a whitish colour, inclining to yellow a little before they leave the sheath, and take on the green.

THEY are nearly of an equal breadth throughout, which I have seldom found to exceed half an inch, or three quarters at most; and they are pretty thick and pulpy in proportion to their breadth, the extremities a little obtuse or blunt, and all of them smooth and soft to the touch.

IN

IN these few particulars all the leaves agree, but there remain still several other things to be taken notice of, in which they vary either according to the different age of the root from whence they spring, the growth and progress of the leaves themselves, or of the different state of the plant in which they appear.

OF this kind, is the number which in a surecus or off-sett of the first year, is for the most part but one, and such leaves are generally very narrow. As the roots increase in age they have gradually two, three, four, five, six, and sometimes seven leaves; but I have never found them exceed that number, except in one plant which had eight. In a flowering plant, they are generally from two to four, very rarely five, and never six, as far as I have been able to observe; and herein Mr. *Fairchild's* observations agree with mine.

THE time of their appearance which comes next to be consider'd, is two fold, within the root and without it, or which is much the same thing, above the ground. As to the first, I have never been able to discover the least rudiments of the new leaves before *December*. From thence till the time that the old leaves decay, they become more and more distinct, tho' by very slow degrees, and continue to unfold themselves and shoot towards the top of the root, during all the summer; the rest of the plant except the *caulis*, being for all that time perhaps wholly at rest. I have cut open a great number of roots in this quiet interval, and I always observ'd the tender leaves of unequal lengths; particularly about middle of *August*, I have seen one leaf almost got up to the top of the neck, while the rest were still a pretty way below it.

BETWEEN the middle and latter end of this month, the leaves generally appear above ground in a plant that does not flower, except the season be cold and wet, such as that of 1725 was to a very great degree, and then I observ'd them to come out near three weeks later than they usually do. In flowering plants the leaves are seldom seen before the end of *September*; they all ascend on one side of the *caulis*, and are never observ'd to surround it. The leaves of off-sett roots generally show themselves first, and those which stand in the open air before those in pots.

H

FROM

FROM thence they continue to grow till about the middle of *February*, at which time they generally attain their greatest length, which when they stand in the open air seldom exceeds fourteen or fifteen inches above the root; but when planted in pots, and kept in a warm room, I have found some of two and twenty inches. It was from such leaves chiefly that the following observations were made, but after what I have just now remark'd, the degrees of their growth in all other cases may easily be determin'd from thence.

IN a fine group, or cluster of roots, which came from *Guernsey* in the summer 1724, and had stood here some time in the ground, and afterwards in a pot in my own parlour, the mother root had six leaves, the longest of which on the ninth day of *November* measur'd full nine inches, and was full half an inch in breadth, and on the thirtieth of the same month, it was eleven inches long, having gain'd two inches in three weeks time.

THE same day I measur'd the leaves of two plants that had flower'd the season before, and in one I found the longest to be eight inches, and in the other seven. And on the twenty fifth of *December* following, these leaves measur'd in the first plant fifteen inches, and in the other thirteen.

ON the third day of *February*, I examin'd two other plants which had stood all winter in the house, and I found the leaves of one of them to be seventeen inches in length, those of the other, twenty two; to so great and unusual a length, had the continual warmth drawn them out; and the same observation may be made on all plants whatever, tho' upon other accounts, heat has been found to be very prejudicial to them, as we shall have occasion to observe below. To this remark, about the different lengths of these leaves I may here add another, that if we take care to tie them loosely to a straight stick, fix'd perpendicularly in the pot, so as just to support them, their growth will be very much promoted by this easy contrivance.

ON the seventh of *March*, the roots that flower'd in the fore-going season, in Mr. *Fairchild's* Garden, had leaves from eleven to thirteen inches in length.

THESE

THESE remain'd still green, by reason of the mildness of the winter, till the latter end of *April*; but in mine, the tops of the leaves had already began to wither, and turn yellowish and dry. From that time they continue to waste and decay, till about the end of *May*, or middle of *June*, and then they vanish almost to nothing, falling off from the root. However, amongst a parcel of roots which I had lately from *Guernsey*, I observ'd some remains of greenness in several of the leaves on the twentieth day of *June*.

CAULIS FLORIGER.

Nudus enodis ac lævis.

Ex rotundo pressior.

Duos circiter palmos altus.

Partim propriis, partim sibi cum foliis communibus tunicis involutus, rectus assurgit; postea vero, superbo florum pondere cedere coactus, paulatim incurvatur.

Colore viridi nitens, inferiore autem sede ex viridi rubescens.

Molliore & fungosâ substantiâ quasi medullâ oppletus.

Et cortice duro ac forti munitus.

THE *Caulis Floriger*, stalk or flower stem, arises, as has been already observ'd, from the *nucleus* or hard substance in the bottom of the blub.

THE surface of it is very smooth and even, and it is naked or without leaves on any part of it.

FROM

FROM its beginning to the top of the root it is of a whitish colour; for about three or four inches above the root, it inclines to a dark red with a purple cast; but afterwards that insensibly passes into a green, which is continu'd on all the rest of the stalk.

THE figure of it is not exactly cylindrical, but a little depress'd or flatten'd on two opposite sides.

THE inner substance is soft and fungous quite through, but without any hollow or cavity in the middle. The whole stalk is however pretty strong in proportion to its bigness, the better to enable it to bear up and support that large bouquet or noble bunch of flowers, with which it is for so long a time adorn'd; however, we often meet with it bent in one or more places, and inclining downward.

ABOUT the middle of *August*, or sometimes later, it begins to sprout out or appear above the top of the root; but it is visible within it, as early as the rudiments of the leaves. From thence it continues to increase till the flower is in full blossom, and then it is commonly twelve or thirteen inches in length, measur'd from the top of the root to the rise of the *perianthium*; but some that stood in my parlour were eighteen inches.

THE length of that stalk from whence I took my figure was just fourteen inches, the circumference at the top of the root an inch, the longest diameter seven sixteenth parts of an inch, and the shortest five sixteenth parts. Immediately under the rise of the *perianthium* the circumference was three quarters of an inch, the longest diameter one quarter, and the shortest three sixteenth parts.

THE stalk continues for some weeks after the flower begins to decay without undergoing any sensible change; then the colour alters by degrees, the green turning into a straw colour, and the purple into a lighter red. The inner substance wastes apace till it becomes perfectly flat and thin, with two or three longitudinal ridges upon it; and at length all that part of it which is above ground, falls down and rots. The other part which is within the root is still to be seen for several years
after

after in form of a thin brown skin; and I am apt to think that it never totally disappears, till by the gradual change of the root all the coats which surrounded it are wither'd and thrown off.

P E R I A N T H I U M

E Caulis summo utrinque productum.

Duabus membranis conflatum.

Colore cinnabarino diluto; quod tandem bisariam debiscens, tenellos formosissimosque florum partus excludit.

WHILE the flowers of this beautiful plant are forming, both they and the footstalks on which they stand, are all inclos'd and cover'd by one *vagina* or case, arising round the upper part of the stalk; of a turbinated figure, not unlike the *perianthium* of the common *Narcissus*.

WHEN the flowers come to blow, this case splits or opens by degrees, and falls back in two unequal pieces or distinct membranous films, of a reddish colour and triangular figure, the basis of them adhering to the stalk: The perpendicular height of both I have commonly found to be about an inch and three quarters, and the base of the largest (which not only composes one side of the case, but borders the other likewise, the narrow *lamina* running in between its edges) half an inch.

BETWEEN these two membranes and the beginning of the *pedunculi*, there are nine, and sometimes more, small and narrow filaments, that hang down like so many threads or *lacinae*, of the same substance and colour with that of the *perianthium*.

I

P E D U N -

P E D U N C U L I

*Trigoni.**Subvirides.**Unum florem singuli in fastigio gerentes.**In orbem sive umbellam dispositi,**Et in latius continuo radiati.*

THE footstalks that support the flowers, and are always equal to them in number, arise from the top of the *caulis* or flower-stem; those nearest the center almost in a right line with the stalk; the rest spreading outwards at a greater or less angle with the first, in proportion to their distance from them.

THEY are all of the same substance and colour with the *caulis*, but not all of equal length in the same congeries of flowers. I have sometimes found them to differ a full half inch, the longest, measur'd from the *perianthium* to the *vasculum seminale*, being an inch and five eight parts, the shortest not above an inch and one eight part, and all the rest between these two extremes.

THE figure of these *pedunculi* is nearly triangular, and their circumference is commonly something above half an inch.

Vasculum

VASCULUM SEMINALE.

Tricapulare, seu in tria loculamenta divisum.

Polyspermum, multis minutissimis, subrotundis, albisque seminum rudimentis fœtum,

Quæ floribus elapsis, in plagis hisce borealibus, cum caule emarcescunt.

AT the top of each *pedunculus* we observe a short thick knobby part, which constitutes the *vasculum seminale* or seed-vessel.

THE colour of it is the same with that of the flower-stem and *pedunculus*; the figure nearly triangular; the height about a quarter of an inch, and the circumference at the middle three quarters, but at the two ends something less.

THE inside of the seed-vessel may be plainly perceived to be divided by membranous *septa* or partitions, into three *loculamenta* or cells, each of which is fill'd with small white seeds in great numbers, but dispos'd in no certain order.

THE seed of this plant never comes to any perfection in these northern countries; neither does the seed-vessel at all swell after the flowers are decay'd, but on the contrary shrinks and dries up.

IMMEDIATELY upon the *vasculum seminale* we meet with a whitish soft juicy substance, from whence the *petala* and *stamina* arise, the *stylus* passing through the middle and center of it. This has been but very indistinctly taken notice of by Botanical writers in any plant, before *Pontedera*, and by him, on account of the use he assigns to it, *viz.* that it is a repository for a sweet clammy liquor often found thereabouts, it is term'd *receptaculum*.

THE upper and inner part of it has by other authors, tho' without conceiving it as a distinct substance, been call'd *floris umbilicus*, and that part of it through which the *stylus* passes *centrum umbilici*. And in this plant regard being had as well to its apparent use, as to its figure and situation, it cannot be better express'd than by naming it *basis sive umbilicus floris*.

FLORES

F L O R E S

Multipli, seu flosculis pluribus compositi in coronam umbellatam speciosissimam congestis,

Liliaceis,

Hexapetalis,

Deorsum, ad Lilii Montani modum, quod Martagon vocant, paululum reflexis.

Bimestri fere vita.

TH E Embryo, or first rudiments of the flowers, wrapt up in the *perianthium* and fix'd to the top of the *caulis*, may be perceiv'd within the root as soon or rather sooner than the leaves. The time of their appearance above ground has been already mention'd in describing the flower-stem; and from thence all the parts of them advancing by equal degrees to a state of perfection, they still remain inclos'd in the *vagina* till the stalk has nearly attain'd its greatest height. About the latter end of *August*, or sometimes sooner or later according to the season, the strength and fullness of the root, and above all the warmth of the place where they stand, the case begins to open, and some of the flowers contain'd within it to unfold themselves. The explication of each flower is gradual; neither do all the flowers in the same plant come out at the same time, for I have sometimes observ'd three weeks between the full opening of the first and last blossoms.

TH E number of flowers in one plant is not always the same; but I believe there are very seldom fewer than two, or more than fourteen, of both which I have seen instances as well as of all the intermediate numbers: with us in *England* the most common numbers are from eight to eleven, but in this as in most things else that relate to this plant, they exceed us in *Guernsey*.

T H E

THE circumference of one flower I have most commonly found to be about seven inches, and the diameter two inches and a quarter ; but in the whole congeries, or bunch of flowers belonging to one plant, these dimensions differ in proportion to the number ; their situation, however, in respect to one another, is always pretty much the same.

THE flowers continue in full bloom for about six weeks, and then begin to decay and contract, remaining in a fading bloom for about a fortnight longer ; after which they quite wither and die.

THAT the growth and progress of the flower and flower-stem may be more distinctly conceiv'd, I shall here subjoin a series of observations made on two plants which flower'd very late.

September 16. The stalk of one of them was six inches above the root, and the *perianthium* was near two inches in length. The other stalk was four inches, and the *perianthium* two. The lowest part of the stalks was of a reddish colour, the rest green, and the *perianthium* red with a gentle cast of white.

ON the 20th of the same month, the longest stalk was twelve inches, the shortest about nine, and the *perianthium* of the first just began to open.

ON the 22d ; the *perianthium* was so far open'd in both, tho' on one side only, as to show one flower almost intirely.

ON the 23d ; the other side of the *perianthium* began to open from the top, and I then perceiv'd two flowers, with the *vasculum seminale*, part of the *pedunculus*, and two *laciniæ* or small threads.

ON the 26th ; the *perianthium* was open half way down, and now began to change its vermillion colour for a brownish yellow. Two of the *laciniæ* were a little wither'd and inclined downwards.

ON the 28th ; The *perianthium* was wholly divided on both sides, and the flowers which till now were erect, and all in one
K bunch,

bunch, began to separate. I could then observe, that the extremity of each of them turn'd outward, and that it drew by degrees to a sharp point.

ON the 29th; I could perceive some of the *apices* in an erect situation; and about this time the green leaves began to show themselves above the root.

Octob. 3d. One flower was beginning to turn back, two more were open'd, the rest continuing as before.

ON the 4th; one of the *apices* grew much less, having shed the *farina*, with which it was cover'd, and so appear'd white.

ON the 5th; I observ'd the same thing in several more *apices*.

IN 1726. I observ'd the progress of another flower, beginning August 21. the top of the *perianthium* being then about an inch above the longitudinal coats of the root; and I continued to measure every day between these two points.

ON the 22d; the distance was an inch and seven eighth parts.

23. Two inches and an half.

24. Three inches and an eighth part.

25. Three inches and seven eighth parts.

26. Four inches and three eighth parts.

27. Five inches and an eighth part.

28. Five inches and seven eighth parts.

29. Six inches and an half.

30. Six inches and seven eighth parts.

31. Eight inches and a quarter; and this day the top of the *perianthium* began to open.

ON the first of September the distance was nine inches and three eighth parts.

2. Ten

2. Ten inches and an half.
3. Eleven inches and three eighth parts. The *perianthium* was more open'd on one side than on the other, and shew'd four flowers.
4. Twelve inches.
5. Twelve inches and five eighth parts.
6. Twelve inches and three quarters.
7. Thirteen inches. The *perianthium* was now pretty wide open, and seven flowers appear'd.
8. Thirteen inches and a quarter.
9. No augmentation.
10. No augmentation, but the flowers were a little more spread.
13. Fourteen inches. The *apices* could now be perceiv'd and some of them were higher than the *stylus*.
16. The distance the same as above, neither did it increase. Some of the flowers were this day open, but none of the *petala* turn'd back.
17. The *petala* in three flowers were turn'd back, two just opening, and two still shut.

THESE observations relate to the flowers in general ; but before we go on to the several parts of which they are made up, it will not be amiss to add one more in this place which is, That we have no certain marks whereby plants that are to flower may be distinguish'd from those that are not. In some cases however, this may be pretty surely determin'd from the number of leaves ; for a root that bears six leaves in one year, will seldom fail to give us a flower the next, if the inclemency of the season or some mismanagement of our own does not prevent it. But then on the other hand, all roots that have had fewer than six leaves the last season, are not to be given over as barren in this ; because in *Guernsey* they often observe plants
to

to flower, which the year before had only five or four leaves, and sometimes even no more than three.

THE gentlemen of that island who have so great a plenty of flowering plants every year, have not thought it worth their while to make any observations upon this matter. In chusing roots to send to their friends in *England*, they always prefer the largest and plumpest, being assur'd that in a considerable number of such roots, some will certainly yeild a flower. With respect to any one plant, however, this can be no sure rule to go by, both because these large roots may have flower'd a year or two before, and because flowering roots are often found to be very far below the largest size. Some such I have seen not quite four inches round.

IT has been a common opinion, both in *Guernsey* and with some authors among our selves, that one root never flowers twice; and the chief reason given for it is, that after having once flower'd the roots immediately die, leaving only their numerous off-spring in their place. But not only is this reason false, as has been observ'd in the description of the root, but the inference drawn from it is contradicted by repeated experiments, both by some of the most curious people in *Guernsey* and here by Mr. *Fairchild*, who has often had a root flower again in four years after the first time. I have now by me some roots that came from *Guernsey*, in which the wither'd remains of two flower-stems are still to be seen, one of them by the accession of new coats, being thrown a great way off from the middle of the root, the other much nearer it as belonging to the last flower, and six or seven *tunicæ* coming between them.

Dr. *MEAD* had several roots sent him from *Guernsey*, which all flower'd in the next season after they arriv'd, and in four years afterwards one of them flower'd a second time. This he was so kind as to send me, and I still have a very good picture thereof drawn by the skillful hand of M. *Angelis*.

THESE and other observations of the same kind that might be added, are sufficient to show the groundlessnes of the supposition, that the same root of the *Guernsey Lilly* never flowers but once; and they prove at the same time that in our climate, there are seldom less than four years between the appearance of

of two flowers in perfect maturity. I say in perfect maturity, because in one sense this plant may be said to flower every year; for, if about the beginning of *August*, the coats of a root be carefully separated from one another, we will very often find the embryo's of two flowers at different distances from the center, each of them inclos'd by a double *clypeus*, and several coats lying between them, the outermost being always more decay'd and wither'd than the other; and besides these another embryo is sometimes seen to arise from the middle of the *nucleus*. This is a plain proof that a new flower was form'd every year, but the plant not having strength enough to bring them to perfection, several of them prove abortive, and seldom above one in four come to their full growth, the root during four years having acquir'd a sufficient vigour for that purpose. As I have never met with four embryo's in the same root, I am apt to think that the intire change thereof, the *nucleus* only excepted, may be perform'd in four years, and consequently that the embryo next after the year of flowering, is thrown off with the old coats before that of the fourth year, which springs from the middle of the *nucleus*, becomes visible; and from thence it may not improbably be conjectured, that the same set of coats are most commonly unable to prepare juices for the perfection of more than one flower; and therefore this plant flowers once in four years, because in that time its root is compleatly renew'd, that is, is brought exactly to the same state in which it was at its last flowering: This however will not hold of all roots without exception, for in those in which I found the remains of two flower-stems, some of the same coats had been employ'd in preparing the juices for two perfect flowers.

IN a root which came lately with many others all in one group from *Guernsey*, and which about the beginning of *August* was seven inches and an half in circumference, I found under six wither'd outer coats the remains of an old flower-stem; under nine juicy coats more lay a wither'd embryo guarded by a double target; and under that lay four inner coats which inclos'd a very small embryo, arising from the center of the *nucleus*; and from this I may infer, that the flowers appear at shorter intervals in *Guernsey* than here with us.

L

P E T A L A

P E T A L A

Inodora.

Rubro versicolore eleganter variegata,

Micisque aureis ad solem pulcherrime splendens.

Oris mucronem versus, leviter undulatis.

Mediâ, intus, regione, sulco quasi perfossâ,

Extrâ, costulâ prominente suffultâ,

Imâ parte in unguem brevem & albicantem desinente.

A floris umbilico, sive basi spongiosa, candida melleumque exsudanti liquorem, unâ cum staminibus, emergentia.

EACH flower is compos'd of six *Petala*, or flower leaves which arising by a kind of narrow short neck, or *unguis*, from the basis of the flower, run up streight for some space, and afterwards the extremities of them turns gradually first back, then inwards and upwards, not unlike the *Mountain* or *Martagon Lilly*, but without making near so full a circle. Three of these *petala* are in a streight line with the angles of the seed-vessel, and begin lower and further out than the other three, which are even with the flat sides of it.

THE surface of both sides of the flower leaves is exactly smooth and even, without the least roughness. On the greatest part of the upper side there is a kind of *fulcus* or hollowness, and on the back side a smooth ridge form'd by the *costa* or rib that runs through it length-wise. The edges are likewise smooth from their beginning to the place where the *petala* turn down, and from thence to the other extremity, they appear a little curl'd or pinch'd. This alteration in the edges is not to be discern'd

discern'd while the flower leaves lie streight in the *perianthium*, but as soon as they are fully blown, the pinch is very plain.

THE length of the *petala* is most commonly about an inch and three quarters, but at the time when the flower begins to open and just shows the *apices* coming out, not above an inch and three eighth parts. The greatest part of them are of an equal breadth, *viz.* about three eighths of an inch; but they terminate at last in a point beginning to grow narrower about half an inch from the top.

I AM now got to the most beautiful and most charming part of these flower-leaves, their colour. This I confess I am not able to describe with that accuracy and liveliness which it deserves; however in the main I may venture to say, that each flower, while in its prime, looks like a fine gold tissue wrought on a rose colour'd ground, and when it begins to fade and decay, it is more like a silver tissue, or what they call a pink colour.

BUT to be more particular, we may perceive here a beautiful complication of different shades of red that all follow one another, such as 1. a carnation, 2. a pale scarlet, 3. a fuller scarlet, 4. a *Modena*, and 5. a crimson. Besides these, the narrow neck of each *petalum*, is of a whitish colour, and from thence upward on the middle of the inside of the leaf, runs a streak of very deep scarlet, which is an inch in length before it is insensibly lost. The backside of these *petala* is chiefly of a paler sort of red or pink colour, but the *costa* or rib is much whiter.

WHEN we look upon the flowers in a full sun shine, each leaf appears to be studded with thousands of little diamonds, sparkling and glittering with a most surprisngly agreeable lustre; but if we view the same by candle light, their numerous specks or spangles look more like fine gold dust. When the flowers begin to decay and the colours to fly off, they appear rather like a silver tissue or a prince colour, that is a red out of grain, being fullest towards the middle and paler towards the edges.

WHENCE

WHENCE the uncommon appearance of these spangles proceeds, or how to account for them, I own I cannot tell; but must leave it to others of better judgment; however since nothing of these is to be seen on either surface of the leaf, without the help of the direct rays of the sun, or adventitious light of a candle, it would seem as if they were owing to something contain'd betwixt the two surfaces. And why not to some globules in the circulating juice through the minute-vessels, which the late improvements in *Botanical Anatomy* have discover'd to us; and what seems to confirm this conjecture, is an observation that may be made, that when the flower leaf is fading these *micæ* or sparkles do not shine with half that vivacity and brightness, as when it is in its prime and state of perfection. The juices then are quite alter'd or almost spent and exhausted, and for that reason the spangles become less lively.

IN fine when the flowers begin to contract shrivel and wither, they are altogether lost, the *petala* assuming a deep crimson colour which continues till they quite dry away.

STAMINA.

Sena sibi contigua, & stylum circumamplexa.

Cylindrica, superiore autem parte in communem vergentia.

Colore pallidius rubente.

THERE are commonly six *Stamina* in each flower, arising from the *umbilicus* within the *petala*; but I remember once to have observ'd seven, besides the *stylus*, in a flower that had eight *petala*.

THEY are all of the same colour, a lighter scarlet than the flower-leaves, but when they begin to fade, they become something paler.

THEY

THEY are thicker at bottom than at top, towards which they run gradually tapering, being a little depress'd on two opposite sides, which hinders them from being perfectly round.

WE find them commonly of three different lengths, the two longest two inches and sometimes a little less; the two shortest an inch and a quarter; and the two others between these extremes.

A P I C E S

Singuli singulis staminibus suffulti.

Versatiles.

Atropurei.

Bivalves.

Farina fecundante onusti.

THE *apices*, summits or pendants, are always equal in number to the *stamina*, on the pointed extremities of which they hang in so easy and loose a manner as to be shaken by the least breath of wind.

EACH of them is seemingly double, having a deep *fulcus*, or furrow, running along their under side, and the biggest of them is about three eighth parts of an inch in length, and one eighth in breadth or thickness.

UPON their first appearance after the flower is blown, and for some days longer, they are all of a crimson or deep purple colour; afterwards they are of a whitish grey, the colour of the *farina fecundans* with which they are then loaded. As this dust falls off, they begin by degrees to contract and shrink, becoming very small at last and of a black colour.

M

STYLLUS.

STYLUS

Principio trifido ab ovarii loculis emergens.

Staminibus productior,

Concolor.

In cuspidem triangularem, pilis seu villis obsitum, abiens.

THE *stylus* of each flower springs by a three-fold beginning, from the cells of the *vasculum seminale*, passing through the center of that substance from whence the *petala* arise, and in the middle of the *stamina*.

IT is apparently an hollow tube, wider at bottom than at top, and of the same light scarlet colour with the *stamina*.

UNTIL most of the male dust is shed, it is nearly of an equal height with the *apices*; but afterwards it grows about a quarter of an inch above them, being then two inches and a quarter in length.

THERE is nothing to be seen on the extremity of the *stylus*, till the *apices* are become very small, and the flower begins to change its colour and fade; but from that time it appears to be crown'd with a short hairy kind of substance, like a tuft of velvet, of a greyish yellow colour, and triangular figure: It continues to stand a good while after the *petala* and *stamina* are decay'd.

CULTURA.

C U L T U R A.

WHEN we consider the delicacy of this plant, and the nicety requir'd in the management of it here, we will have reason to be surpris'd to find so little pains taken about it in *Guernsey*, where it grows in the greatest plenty, and thrives better than it has hitherto done with us. The beauty of it has determin'd the gentlemen of that island, to confine it to their gardens without suffering it to grow wild in the fields, and the prodigious increase of the roots by off-sets, has oblig'd them to transplant them from time to time. Propitious nature has sav'd them all farther trouble about it; and even the most curious amongst them, have been able to assist her but by very few additional contrivances. In *England* the case is very different; the *Guernsey Lilly* in our climate requires a great deal of care, but the chief intent thereof is only to imitate by art and skill, what nature does in that happy island; and to make a right use of the few other rules of management which experience has taught them there.

To explain these things by a particular deduction, is what I propose in this article, under the four following heads; The soil to be made choice of; the method of planting the roots; the care of them while in the ground; and the times and seasons for taking up and transplanting them.

ABOUT the first of these the gentlemen of *Guernsey* are not very solicitous; for there are large beds of *Lillies* to be seen there thriving very well in common kitchen garden mould; and no doubt, were it worth while to try the experiment, they would grow even in their open fields: However it must be acknowledg'd, that they prefer some soils and some situations to others; for as much as their gardens will allow it, they chuse always a fine free loam mix'd with a little sand. This has been found by experience to be of the same parts and qualities, with what writers on agriculture, call virgin-earth here in *England*; such therefore when it can be had, ought here to be made use of;

of ; and where it cannot, we must endeavour to imitate it by a due mixture of sea sand, lime, rubbish, or gravel free from large pebbles, with the mother earth, according to the quality which it shall be found to be of. If the earth be taken from sheep-walks, or other places that have not been turn'd up for many years, one third drift or sea sand will do.

IN the next place they chuse a south exposition for their beds, and to make them sloping, guarding them on the north side either by rocks and other rising grounds, or by the shade of trees. The north winds in that island are found by experience to be the most prejudicial to the growth of vegetables ; and the reason of the declension of their beds is chiefly to carry off the rain water, nothing being so destructive to the roots as too much humidity ; which they are so sensible of in *Guernsey*, that they always pitch upon the dryest parts of their gardens for their Lillies to stand in, having found by experience that the roots seldom fail to languish and die in a few years, when planted in a wet soil or even near springs of water. To prevent this inconveniency as much as can be, I would advise the beds to be dug about twenty inches or two foot deep, and one half of that depth to be filled up with rubbish or other coarse stuff that will keep the bottom dry in the winter, especially if assisted by a drain to carry off the water to some distant place. The rest of the bed is to be filled up with the mixture already mentioned.

THERE can be no difficulty in applying all the other parts of this last observation here ; the greatest nicety will undoubtedly be required in the former, that is in imitating by art the natural loam of *Guernsey*. Two extremes are in this equally to be avoided, too sandy and too rich a mould. They find that sand is apt to scorch the roots, and that they moulder and rot in very rich ground ; for this reason they never dung their beds ; and to that we may add another observation they have often an opportunity to make, which equally proves how agreeable a light soil is to this plant, and that is, that not only when the roots come to stand so thick in the ground as to thrust one another towards the surface, those that have but very little earth left about them, flower as well as the rest ; but even when they are taken up at the proper season, and either thrown in heaps in the corner of a garden, set in a window, kept in a man's pocket, in a vial, or left on a pavement, those that are prepared for flowering, blow in the same manner as if

if they had been left in the earth ; and it is a very common custom in *Guernsey*, as soon as they perceive the flower-stem to appear above ground, to take up the root and leave it to flower in their windows.

A proper soil being made choice of or prepar'd, the next step in the culture of the *Guernsey Lilly* is to plant the roots. The season for this is during the months of *June* and *July*, because by the middle of *August* we may expect the leaves or flower-stem to appear above ground ; and the roots ought not to be taken out of the ground till near the end of *May*.

IN *Guernsey*, where they remove them but seldom, they are planted at about six inches distance every way from one another, that the off-sets may have sufficient room to spread ; but here in *England*, where it is thought convenient to raise them oftener, they may be set much nearer, that by their contiguity they may cherish one another, which even in *Guernsey* is thought to be of no small advantage to their growth and thriving.

IN *Guernsey* they seldom plant them above six inches deep in the ground, measuring from the bottom of the hole to the surface of the bed, and often much shallower, even not above an inch and half ; because they observe that the off-sets naturally ascend, as if they did not love to be quite bury'd in earth. It is an observation of the most judicious Gardeners, that all bulbous roots multiply most when planted shallow ; this is sufficient to justify the practice of *Guernsey* ; but as our chief care ought to be to preserve them from frosts in the winter, it will be safest for us to give them a pretty good depth in the ground ; because by this means the frost will have less power over them, and it is better to lose a great many off-sets, than one mother-root. And for these reasons I would advise every body to plant as great a number of them together as can be had, that even in the first season they may be sure of having several blow, and of a continual large increase both of roots and flowers in the succeeding ones.

THE roots being thus planted, there is no farther care taken about them in *Guernsey* till they come to be taken up again, except that some few gentlemen amongst them order a mixture of sand, broken shells, and other things to be sifted over them

N

from

from time to time, or the parings of their gravel walks to be spread upon the beds. With us this branch of the culture ought chiefly to consist in preserving the roots from the violence of winter colds and frosts, which are never to be fear'd in *Guernsey*; and above all from great rains or any other sort of wet. The contrivances for both these purposes are common to this with many other plants, and well known to the generality of Gardeners and lovers of gardening, both from their own experience and the numerous treatises we have on that subject; and therefor I need say nothing further about it here, than only that Mr. *Knowlton* has contriv'd a frame of wood, particularly adapted to the beds of these lillies, which he is of opinion will answer both these ends with very great advantage. The length and breadth of this frame must be answerable to that of the bed which it is to inclose; the back part six inches high, and the fore part four. It ought to be set about *Michaelmas*, and bank'd up to the top on both sides with earth. The upper part of it is to consist of sliding shutters, to be taken off as often as occasion requires, in order to give the plants the benefit of the free air, so necessary to their thriving; but when there is any probability of a frost of long continuance, the whole frame must be cover'd over with horse-dung, in order to keep it out.

FOR those who cannot have such conveniencies in their gardens, the only way left is to plant their roots in pots which may be easily remov'd from one place to another, as often as is necessary, either on account of colds, frosts, or rains, or to give the plants all possible benefit of the sun's rays in summer; for we need never be afraid of their having too much sun with us. Such flowers may be less beautiful, and the plants more sickly than those planted out in the open ground, by the wasting of the earth, or effects of heat when shelter'd in houses; but it is better to preserve them with these disadvantages, than to lose them altogether.

THE last part of the culture of this plant, is to raise the roots out of the ground in order to transplant them in the manner we have already seen. The only reason why this is never done in *Guernsey*, is, that tho' the roots be set six inches distant from one another; yet in nine or ten years time the off-sets multiply so prodigiously, that they have no room left to spread, and so hinder one another's growth. But as with us it will be convenient to plant them much nearer, they may be
taken

taken out of the ground in four or five years time. The season for this is the same with that for planting; for the leaves being then quite dead, the plant enjoys its greatest state of rest, and consequently suffers nothing, or but very little by being remov'd, or being kept out of the ground till *August*. For this reason the gentlemen of *Guernsey*, as often as they have a mind to send presents of roots to *England*; never scruple to dig up any part of their beds during these two months, and having pick'd out the roots that they judge most likely to flower that year, they replant the others without any danger of losing them; but it must certainly be a very bad piece of management, to take up the roots in winter on pretence of securing them from the frosts; because as they are then in a state of action and motion, as appears by the greenness and growth of the leaves, they ought by no means to be disturb'd; and the best way of sending them from *Guernsey*, is to let them be in great clumps with only the earth that sticks to them, without any farther precaution.

THUS I have given an account of the culture of this plant in *Guernsey*, and propos'd such directions as, I think, do arise from thence with respect to *England*; I have only further to add a letter from Mr. *Fairchild* on the same subject, in which he must be allow'd to be a very nice judge, and likewise he has had the experience of a great many years to guide him in his management. His letter is to this purpose.

S I R,

I Have here sent you an account of the proper management of the *Guernsey Lillies*. They love a light earth, made with dung and sand, and a little lime rubbish with it does very well; it keeps the roots sound: For if the earth be too stiff or wet, you may keep them many years before they blow.

If they are in pots, they should be put in the house in winter, to keep them from the severe frosts, which are apt to rot the roots; for any thing that is in a pot freezes harder than in the natural ground.

The time of moving them is when they have no leaves on the root, that is from June to August.

Those

Those that come with six leaves this year, seldom fail blowing the next year. They need not be put in fresh earth not above once in two or three years.

By this method of management, I have had the same roots blow again in four years time; for as the flower-stalk comes out of the middle of the root, so when the green leaves begin to shoot, which is always after the flower, they always come up on one side of the stalk, so as they come up, the stalk becomes of one side of the root, which plainly shows that there is a new heart made in the middle of the bulb, which is three or four years before it hath strength to blow.

For as the Tulip makes a new bulb every year, by the circulation of the juices that are in the leaves and flower-stalk, so by the circulation of the juices that are in the leaves of this plant, it makes a bulb fit for blowing the third or fourth year.

So I find many miscarriages that happen in the Guernsey Lilly, are by letting the leaves be killed by the fierceness of the frost in winter, or by cutting them off, as some people do, when they are green; which will so much weaken the plants, that they may keep them twenty years and not have them blow.

So by the above method of management, where there is a stock, there will be continually some blowing.

I hope this account may be acceptable from

SIR,

HOXTON,
O^r. 21. 1724.

Your most Humble Servant

THOMAS FAIRCHILD.

HISTORIA

HISTORIA BOTANICA.

THE foregoing articles contain all the observations I have hitherto made concerning the *Guernsey Lilly*, and the informations I have received concerning the history of it's progress from *Japan* through *Europe*, and concerning the best methods of cultivating it here in *England*. The only thing therefor which I conceive can be still wanting, is another branch of history relating to it; I mean an account of what has been hitherto said about it by Botanical writers; and this I shall take the liberty to accompany with some reflections whereby, amongst other things, the reader, who, I hope, is by this this time fully satisfied how much this plant deserves to be examin'd and accurately describ'd, will see what need there was for a new treatise about it, after all that is to be found in twenty authors, by whom I am sure it has been mention'd.

OF these, it has been already observ'd, *Cornutius*, an ingenious *Parisian* Botanist and Physician, is the first; at least, if any author has talk'd of this plant before him, it is in so imperfect and indeterminate a manner, that by what they have said, it cannot be certainly known whether they really meant our Lilly or not: but of this more hereafter. *Cornutius's* design led him principally to the consideration of such plants as are of the growth of *Canada*, a *French* settlement on the continent of *North America*; but he has thought fit likewise to include in that history, such other curious plants as had come to his knowledge, without having been taken notice of before him: Of this number is his *Narcissus Japonicus*, and he has describ'd it in these words:

Inter omnes Narcissos qui haecenus inuisi apud nos extiterunt, prima, ut arbitror, auctoritas nobilissimo huic generi debetur; quod paucis abhinc annis ex Japonia allatum, strenui admodum & nullis sumptibus parcentis viri Joannis Morini culturâ, tandem in florem profiluit septimo mensis Octobris anno Domini 1634.

O

Spectabilis

Spectabilis Thyrsus per initia nudus foliis, paulatim sese in pedis altitudinem subrigit, superiore parte virens, infernâ mille atro purpureis notis infuscatus. In cujus fastigio novem aut decem florum gemmæ totidem petiolis hærentes, in umbellam disponuntur; quæ prius oblonga & rotunda quadam vagina membranacea celabantur. Hæ dum florem patefaciunt, in sex folia deduci solent; si potissimum planta hæc resoluta & pingui humo seratur; nam si siccâ aut confectâ posita sit, soli macies plerumque nonnullos uno aut altero folio mutilat. Quod omnibus fere floribus familiare est qui ab exteris regionibus, aut saltem extra natale solum transferuntur: quorum integritatis & elegantiae non minimum soli macies detrahit: hæc namque fructus etiam natura dulces in acerbos & læves in hispidos vertit. Grossulæ fidem faciunt, quarum pomum spinis undique aculeatum nuper vidimus; licet huic id tantum generi peculiariter ingenitum affirmant. Quanquam certum sit plantas omnes ut cultura & optimæ terræ ajectione feritatem omnem deponunt, ita & facile eandem aut incuria aut soli siccitate resumere.

Singula ergo cujusque floris folia duas uncias sunt longa; admodum angusta & exigua veluti lacuna sulcata: juxta floris centrum brevi acumini gracilescunt; extrema parte inflexa resupinantur (pro more Lilii Montani quod Martagon vocant) color floris est cinnabaris aut laccæ elegantioris, vena sanguinea tamen lacunarum media discriminante: sex stant in medio filamenta foliis longiora & pallidius rubentia; totidem apicibus atro-purpureis ornata.

Unus odor abest, ejus defectum natura supplevit vivacitate coloris, quem non modo pigmentorum mixturæ artificio quisquam assequi nequit, sed nec ullis hætenus floribus similem concessisse naturam observatum est. Nam præter eximium hunc colorem, quo intuentium obtuitum bebetat; si forte serenus dies affulserit, floremque radiis sol meridiana illustraverit, mille velut scintillas evibrat, quas pertinax oculus, inconnivensque, vix momento sustineat.

Subest bulbus prioribus (Narcissis) similis. Folia vero non nisi tabido caule erumpunt: quorum color non glaucus nec obscurus, sed grata viriditate renidet.

THIS description the author has illustrated by two figures, one of which represents the stalk and flower; the other the root and leaves.

THE figure he has given of the root, together with this single remark, that it resembles those of some other *Narcissi*, he thought was sufficient to make it be conceiv'd ; but then, besides that none of the varieties to be observ'd in them are here expressed, he has intirely omitted the *nucleus*, making the fibres or radicles come out from the body of the bulb.

HE has likewise made several very great mistakes about the leaves ; for besides forgetting the distinction to be made between those of a flowering plant from the others, he makes the first kind appear not before the decay of the flower-stem, he has drawn nine in one plant, and placed them on both sides of the *caulis*.

THE stalk itself is represented perfectly streight, the number of the *petala* made to depend on the soil, and the *vasculum seminale* and *stylus* altogether left out in his description, tho' the last appears in his figure.

EVERY thing he has said about the proper soil for this plant is directly contrary to our most certain observations ; but that may in great measure be owing to the small experience that could then be had of its culture in *Europe*.

THESE are the most palpable mistakes to be found in *Cornutius's* description and figures ; his defects and omissions are innumerable, but these I leave the reader to examine by comparing both with mine ; having only this farther remark to make about them, that his figure of the flower is very beautiful and exact, as likewise what he has said about the colours of the *petala*, if he had not exaggerated a little too much.

AFTER *Cornutius* the first writer, by whom any mention has been made of this plant is *Morin*, who places it among the most tender plants, that is those which can suffer the least degrees of cold. In another catalogue of the most beautiful flowers which appear in every month of the year, his *Narcisse du Japon* is left out, from whence it would seem that he was either very little acquainted with it, or but an indifferent judge of the beauty of flowers. As this author's christen'd name begins with a *P*, he cannot be the same *Morinus*, mention'd by *Cornutius*.
He

He mentions a brother of his *Rene Morin*, who was likewise a curious Florist; but as for our author, I believe he was a Gardener, for among other histories of plants, of which alone the greatest part of his book consists, he gives us one of such rare flowers as he then had to sell, and he gives names to most of them never us'd in print, but by those of that trade.

NEXT to *Morin* is our own countryman *John Evelyn*, author of the famous discourse on Forrest trees. This plant was then but lately known in *England*, and therefor he thought it necessary in his *Gardener's Almanack* to give some directions about the culture of it. Among other parts of the Gardeners work during the month of *April*; now take out your *Indian* tuberoses, says he, parting the off-sets, but with care least you break their fangs, then pot them in natural, not forc'd, earth; a layer of rich mould beneath, and above this, natural earth to nourish the fibres, but not so as to touch the bulb: Then plunge your pots in a hot bed temperately warm, and give them no water till they spring, and then set them under a south wall: in dry weather water them freely, and expect an incomparable flower in *August*. Thus likewise treat the *Narcissus* of *Japan* or *Garnsey Lilly* for a later flower, and make much of this precious direction. In some later editions of this treatise, he has added these two observations to the directions for the month of *April*. First, that this nice curiosity, the *Garnsey Lilly* set only in a warm corner expos'd to the south, without any removal at all for many years has sometimes prosper'd better; and next that sea sand mingl'd with the mould more plentifully towards the surface exceedingly contributes to the flourishing of this rare exotick.

IN the month of *June*, he orders the *Narcissus* of *Japan* to be planted in pots, and those that have not been taken up to be water'd. In *September*, he tells us the flowers of this plant are in their prime. And in a separate catalogue of plants which according to their nature require more or less indulgence, he ranks the *Narcissus* of *Japan* among such as endure the second degree of cold, and which are accordingly to be secur'd in the conservatory. Besides in his philosophical discourse of earth, he observes something in relation to the management of this flower, in the following words:

IN the mean time, there are yet some plants which thrive almost in nothing so well as in sand alone, or with very little mixture,

mixture, nor that of any dung ; so melons are said to grow in *Jamaica* ; and some vast timber trees have little or no mould adhering to their roots ; such is that beautiful stranger, the *Japan Lilly*, called by those of *Guernsey* (from whence we only have them) *La belle de nuit*.

THESE directions show abundantly that Mr. *Evelyn* had been at a good deal of pains to study the true culture of this plant, and that he was a very great judge in such matters. He seems however to have ordered the roots to be taken up too early in the year, and I believe there can very seldom be occasion for watering them.

A little time after, Father *Rapin*, a learned *French* jesuit, in his book of gardens, design'd as his society pretends for a supplement to *Virgil's Georgicks*, put some part of *Cornuti's* description into *Latin* verse, with the addition of one new observation about the time of flowering of this plant.

Narcissus Japonius, ou Narcisse du Japon.

*Est etiam extremo qui nuper venit ab orbe
Narcissus flores lucenti concolor ostro
Auratisque litus maculis, ceu sparserit imber
Aureus egregium texto sub murice florem
Qui possit Tyrios foliis hebetare tapetas.
Vosque boni, vos illum hortis inducite crebrum,
Cultores, rarique decus novum addite Franco.
Et quanquam ad cultum non sat respondeat omnem
Flos amat ille coli, vestræ ne parcite curæ
Omnis vincet opes vestri, si floreat, horti.*

THESE three last lines are not in the first edition. Concerning the whole it is sufficient to remark, that his versification is allowed by every body to be very beautiful, and he is known to have been a much better Humanist than a Botanist.

WE have two *English* translations of these lines, one by Mr. *Evelyn*, son to the gentleman of that name already mentioned ; the other by Mr. *Gardiner*, Sub-Dean of *Lincoln* ; which it would be pity to separate from the original, tho' I trespass on the order of time.

P

Purple

Purple *Narcissus* of *Japan* now flow'rs,
 Its leaves so shine as if with golden show'rs
 It had been wet, which makes it far outvy
 The lustre of *Phenicean* tapestry.
 Therefore t'augment the grace of *France* 'tis fit,
 This flower into our gardens we admit.
 'Tis true it hardly answers our desires
 At first, but longer culture still requires,
 Yet let not this occasion our despair,
 When once it blows, 'twill recompence our care.

EVELYN.

Late from *Japan*'s remotest region sent,
Narcissus came array'd in scarlet paint;
 Rich spots of yellow stain the precious flow'r,
 As if besprinkl'd with a golden show'r;
 The radiant tinctures may with tap'stry vye,
 And proudly emulate the *Tyrian* dye.
 This flower, ye skillful Florists, often plant,
 Let not our nation this fair beauty want;
 And tho' she answers not your common care,
 No cost nor labour on her dressing spare,
 For should she but her conquering charms display,
 From every fair she bears the prize away.

GARDINER.

Mr. *EVELYN* has every where render'd the sense of his author exactly enough, but the diction of Mr. *Gardiner* is more refin'd, and his verses much more harmoniously turn'd.

John Rea of *Kinlet*, near *Bewdly* in *Worcestershire*, Gent. seems to have known little more about the *Guernsey Lilly* than barely its name; for after telling us, that the *Narcissus latifolius virginianus flore purpurascens* beareth many flowers on one stalk, like small lillies, of a fullen purplish colour, never opening, and seldom shewing the inner sides of the leaves in its natural country,

try, and he doubts will hardly live in our's; he adds, as it were only by the by, that of this generation is the *Narcissus* of *Japan*, or *Guernsey Lilly*, which there prospers and bears in *October* peach-colour'd flowers; and a little lower, that the *Indian* Daffodils are all strangers in *England*, except that of *Guernsey*. Whatever it might be in *England* at the time when this author wrote, it is more than probable that it was as great a stranger to him as any of the rest: for had he ever seen it, he would undoubtedly have taken more notice of so essential a requisite belonging to a Florist, in a book which the title would persuade us is furnish'd with them all.

NEXT appeared Mons. *Fonquet*'s catalogue of plants in the Royal Garden of *Paris*, which had been just then restor'd and augmented at the publick charge, under the direction of Monsieur *Vallot* first Physician to *Louis XIV.* The *Guernsey Lilly* was too considerable a plant not to find a place there, and it is not improbable, that they were supply'd with it out of *Morison*'s garden. It was certainly not very common at that time about *Paris*, otherwise Mons. *Fonquet*, who appears by the catalogue of his own plants, publish'd a few years before, to have been very curious in flowers, would not have been without it.

Dr. *MORISON*, besides the history of this plant's coming into *Guernsey*, has only transcrib'd *Cornutus*'s account of it without any considerable variation; declaring himself likewise uncertain whether it may not have been describ'd by *Ferrarius* under another name: *An hic Lilio-Narcissus Japonicus rutilo flore, sit idem an minor species Narcissi Indici Bapt. Ferr. saturato & dilutiore colore purpurascens, examinent posteri Botanici.*

Mr. *RAT*'s account of it is remarkable for nothing, but in that he has kept closer to *Cornutus*'s text than had even been done by Dr. *Morison*. One would have thought that so extraordinary a plant brought into the *British* dominions after so extraordinary a manner, and thus as it were by chance made *English*, might have been judg'd worthy of a more particular notice by these two great *English* Botanists; and that instead of adopting, they would have been at pains to have corrected *Cornutus*'s many mistakes, and supply'd his omissions.

THE

THE design of *Plucknet's Onomasticon*, led him no further than barely to mention the *Guernsey Lilly*, but it is surprizing that he has taken no notice of so rare a plant, in his other numerous works.

WE have already heard in what manner this Lilly has been class'd by *Tournefort*, and what characteristick notes belong to the genus he has plac'd it under, which is all that was to be expected from him.

WE find nothing in *Rudbeckius* but a name for this plant, and a copy of *Cornutus's* figure made large enough to fill a folio page.

IN the figures publish'd by the Royal Academy of *Paris*, under the particular inspection of that famous *Botanist* *Monf. Dodart*, we have four belonging to the *Guernsey Lilly*. The first represents the *caulis* and bunch of flowers as large as the life; the second, a root with fibres and short leaves; the third, the *perianthium* inclosing the flower; the fourth, the *petala* of one flower just opening. These figures as well as the rest contain'd in this volume, tho' perhaps not altogether free from faults, are justly allow'd to be excellent in their kind, and we have good reason to regret that the whole design of an universal history of plants, undertaken by that learned body, and encourag'd by the special bounty of the prince then reigning, of which this valuable specimen was to have made a part, has not hitherto and probably never will be fully executed.

LIGER, about whom I know nothing more than that he was of *Auxerre* in *France*, has given us an account of several sorts of *Narcissus's* of *Japan*, and also very particular rules about the culture of them. Of all the *Narcissus's* I have spoken of (says the *English* translation, which I find pretty agreeable to the original) this is much the finest. There are three different sorts of the *Narcissus's*, that we call *Narcissus's* of *Japan* or *Indian Narcissus's*. I will first give the description of them, to the end that having shewn what they are, I may be better understood concerning the different ways of cultivating them.

THE

THE first *Narcissus* of *Japan* hath flowers like the Lilly, and begins to shoot about the end of *May*, or in the beginning of *June*, in the following manner.

AT first we see rising from its bulb, a smooth stalk about as big as the little finger, and a foot and half in height: At the end of this stalk grows a kind of sheath, which coming to swell produces several cups, each whereof supports a flower compos'd of six leaves that are streak'd and bent backwards, each of them growing on a large pedicle, being of a yellowish red colour; from the midst of which rise six pivots tipt with pendants hanging downwards and of a red colour.

WHEN these flowers are past, two or three leaves succeed them, which growing from their bulbs look like those of the *Day Lilly*, excepting only that they are a little broader and greener, and that they are spotted with little red specks; they are not very long and they last till winter.

THE second *Narcissus* of *Japan*, which is very scarce, is a *Narcissus* made like a Lilly, but the leaves of its flowers are more spreading, and fall not down so much. 'Tis more fruitful in flowers than the first; it blows in *September*, and is of a white colour mingled with red. The case that incloses its flowers is compos'd of white membranes, which no sooner begin to open themselves but they disclose flower-leaves something reddish, and resembling as it were small plumes of feathers, which when they are quite blown represent a marygold of a beautiful red, the bottom whereof is pale within and without.

IN the middle of these flowers grow six unequal pivots, at the end whereof are pendants, like those of the *Saffron*, falling down like the *Fennel* and of a red colour.

THE third *Narcissus* of *Japan* is not less beautiful than the second, and differs nothing from it but that its red is brighter. For its flowers are made in the same manner, tho' it produces not so many; nor are the leaves so large, because its bulb is less.

THO' these three sorts of *Narcissus's* are very scarce, to satisfy nevertheless those that are desirous to have them, see here the rules they ought to observe in cultivating them.

Q

THE

THE first *Narcissus* like all the rest is multiply'd by bulbs, and is cultivated in pots with more success than in the naked earth ; because if it be in pots, it is easy to give it as much sun as it requires, in order to produce its flowers.

THESE pots should be fill'd with very light earth, that is to say two thirds of mould taken from a hot bed, and the other third of kitchen garden earth well sifted. Having made this composition of earth and fill'd the pots, we plant therein the bulbs of this *Narcissus* two or three inches deep ; nor do we pull them up to take off the suckers till the second or third year after, and always in the month of *March*, having all along taken care to keep the pots in a place where the frost never enters, and that is not damp.

WE leave these bulbs without watering them, from the day they are planted till the month of *May*, taking care to keep them always in the warmest place we can.

WHEN that month is come we give them a plentiful watering, by dipping the pot into water, and leaving it there till the water swims on the surface of the earth that fills the pot, after which we set it in the hottest sun we can.

AFTER this first wetting, we are careful to water them as much as the heats will permit : This we may not neglect to do except the weather be very rainy.

THIS plant requires a warm place, and delights to be where the sun naturally darts down his fiercest beams : for which reason unless we are exact in ordering it according to the method above prescrib'd, it will scarce ever give us a flower worth the having.

THUS we govern the *Narcissus* of *Japan* till the month of *October*, to oblige it to produce many suckers, and beautiful flowers in its season.

THE following year we do not, as I have said already, take up the chief bulb ; but only change the earth that lies over for other of the like nature, and leave it thus till *May* without watering

watering it. The third year we pull up the bulbs, to take away the suckers that are grown about them.

THE two other *Narcissus*'s of the same kind, require a sandy soil mixt with kitchen garden earth well sifted, into which are set the bulbs two or three inches deep. They expect likewise a great deal of sun, and as to the rest they desire to be cultivated like the first.

THUS far *Monf. Liger*; and first about his three sorts of *Narcissi*, it may be remark'd, that the second and third are both of them our plant differing only in some accidental things, reckon'd by all Botanists insufficient to denominate them different species. His description of them is but very indifferent, but the mistakes in it are too evident to need being pointed out. The first sort is likewise a species of the *Lilio-Narcissi*, different indeed from the *Guernsey Lilly*, but as that came also probably from *Japan*, and was then taken to be of the *Narcissus* kind, the same name was given to both, and from thence they were suppos'd to be two sorts of the same plant, whereas in reality they are two different plants call'd by the same name.

THEY agree however very much in the method of culture, and it must be own'd that, bating the excessive watering which he orders for them, which would be very pernicious to the *Guernsey Lilly*, his directions about that are very judicious and exact.

THE accurate and ingenious *Kæmpferus*, in his catalogue of *Japan* plants, mentions the *Guernsey Lilly* among those that are remarkable for the beautiful structure of their flowers, without any farther remark, than that it is the *Narcissus Japonicus rutilo flore* of *Cornutus*: But amongst the invaluable manuscripts which he left behind him, now in the possession of the worthy Sir HANS SLOANE, there is a particular description of it, which I shall here set down in his own words, as it was communicated to me by order of that gentleman.

RADICE gaudet unâ, bulbosâ sed venenosâ.

CAULE assurgit nudo, cubitali, pinguisculo, recto, tereti, herbaceo, micante, lævi; teneræ, succosæ, ut plurimum aquosæ, fragilis,

lis, tenuissima cuti obiectæ, spongiosæ atque albescentis substantiæ; saporis subdulciusculi, odoris silvestris tetrici.

NARCISSI capite fastigiatur oblongiori acuminato, herbacea tunica clauso, quo dehiscente ac emoriente;

FLORES in umbellam expandit Liliaceos sanguineos ab uno puncto emissos, plusculos.

PEDICULIS singulis, semiuncialibus, herbaceis, mediocriter pinguiusculis, capitulo quoque herbacea donatis, innatum

LILIUM hexapetalum, sanguineum, petalis angustissimis, latitudinis culmi avenacei, longitudinis ultra uncialis, Martagoni aut coronæ Imperialis more in gyrum repandis, inflexis, orâ subundulante, antica facie subsericea, aphana, aspectu gratissima, ac in longitudinem subconcaua, exteriori subnigricante, media quasi costa pinguiuscula carnosâ, firmatâ.

STAMINA habet sena, biuncialia, sanguinea, splendentia, modice tenuia, in acumen excurrentia; apice obscuro glauco donata, media sui longitudine inbærente.

STYLO gaudet nudo parili cum stamine figuræ & notæ; nisi quod nudus & plusculum longior sit.

FOLIA, ut defloruit, producit Narcisso similia, angusta, pingua, substriosa, antica facie sature virentia, ac nitentia, parumque concava, dorso rorido & aphano, per cuius medium decurrit costa carnosâ tenuis, equalis, tenui rimula canaliculata.

AGROS ubi provenit dense obtegit, scarlatino veluti & jucundissimo colore. Fit id Septembri mense.

USUM non habet, etenim venenosa radix dysenterium dicitur & mortem causare comesta, nisi prius per triduum aquâ maceretur.

QUO tempore floret pueri caulibus pro lusibus utuntur ex iis in frustula suffractis rosarium fingentes, floris sui adorea dependula mire venustatum.

FOLIORUM quoque aliquis usus est pro conservandis varii generis fructibus quos per aliquot menses præservare dicitur si iisdem mixtos imponas.

THE Gentleman who copy'd out this description for me, being perfectly acquainted with all his writings, assures me that it was written, and the plant delineated, upon the spot where he saw it growing, only as a rude draught which he design'd to perfect at his leisure. To this therefor we may perhaps impute some things he here says, which will not agree to our Lilly especially the narrowness and colour of the *petala*, the *striae* and *costa* of the leaves, and that they do not come out till the flower decays. If this be not the case, we must believe that this plant has chang'd its nature very much in changing its climate.

WHAT is further to be observ'd from this author is, that in *Japan* this Lilly grows wild in the fields, that it loves a fat soil there (for we have heard in the Etymology of its names in that language, that it is found most plentifully in burying-grounds) and that the root is poisonous. Whether it still retains this last quality I have not as yet been at pains to examine. But above all, I cannot wonder enough how so nice an observer as *Kæmpfer* could overlook the most surprizing beauty of the whole plant, the spangles which it shows when expos'd to the sun, especially after what he had read in *Cornutius* about them. For this reason alone, I should be apt to conclude that the *Guernsey Lilly* and *Kæmpfer's Lilium Sanguineum* were different plants; were I not very well assur'd that mine is the same with the *Narcissus Japonicus* of *Cornutius*, and that *Kæmpfer* was too much a Botanist to be capable of applying the name given it by that author, to a plant different from what he intended to express by it.

THIS Author, as we learn from the account of his life lately publish'd by Dr. *Scheutzer*, was born at *Lemgow*, a small town in the circle of *Westphalia*, in 1651. Having apply'd himself in several Universities to the study of the Liberal Arts, and afterwards for four years to Physick and Natural History at *Coningsberg* in *Prussia*, he went from thence to *Sweden*, and there accepted of the place of Secretary to the Embassy which that Court sent in 1683, to the King of *Persia*. IN 1685, rather than to return with the Ambassador *Fabritius*, he chose to enter into the service of the *Dutch East-India* company, in quality of chief Surgeon of a fleet then in the *Persian Gulph*; and in 1689 he arrived at *Batavia*, from
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whence the year following he set out on his voyage to *Japan*, in quality of Physician to the Embassy which the *Dutch East-India Company* sends every year to the Emperor of that country. There he remained two years, and returned at last to *Holland* in 1693, after ten years absence from *Europe*. The year following he took his degree of Doctor in Physick at *Leyden*, and returning to his native country was appointed Physician to the Count *de Lippe* his sovereign prince. He died in 1716, in the 66th year of his age; and his papers and other curiosities were purchased for a considerable sum of money by the curious and learned Sir *HANS SLOANE*.

THE Reverend Father *Barrelier*, amongst a great number of curious plants both indigenous and exotick, which he observ'd in his travels through *Italy*, *Spain*, and *France*, has represented the *Guernsey Lilly* in three very good figures; the first of the root alone, the second of a single flower, the third of the *caulis* crown'd with a whole bunch of flowers.

WOOLRIDGE may, I believe, be reckon'd the author of the mistake pretty common among writers of Horticulture, that the *Guernsey Lilly* in *England* never flowers but once. The most rare and curious exotick, says he, the Lilly of *Japan*, which is rais'd in some more southerly climate, and being brought into this country, yields a fair bunch of flowers, much like red Martagons, and when the sun shines on it, the whole flower resembles cloth of gold; altho' the root may live over the year, yet 'tis said it never bears any more flowers in this climate.

AMONG other exoticks, for the sake of which green houses are erected, Mr. *Charles Evelyn* mentions the Lilly of *Japan*. This he tells us is a rare and curious exotick, yielding a fair branch of flowers, not unlike the *Martagons*. And the sun has so great an influence over these flowers, that when it shines on them, the whole flower seems chang'd and resembles cloth of gold. But the root never produces any more flowers after once blowing. This last observation I have shown in its proper place to be false.

Mr. *Bradley* has given us two discourses upon this plant; the first, in his *New Improvements*, &c. in these words: The *Guernsey Lilly* has hardly it's equal for beauty among the flowering

ering race, and yet it is rarely found in our gardens, which may perhaps be for want of a right knowledge of its culture. Mr. *Fairchild* of *Hoxton* has this plant flowering with him every Autumn, even from off-sets taken from the great roots. The blossoms are large and not unlike those of the Lilly in their make, seemingly powder'd with gold dust upon their rose colour'd petals.

THE most proper soil for this plant is two third parts of sea sand to one of natural soil; or a light sandy earth mixed with an equal quantity of rubbish. It will bear the hardships of our winters, if it be planted in either of the foregoing soils under a warm wall, but chiefly if it be kept dry. The flower-stems of this plant are commonly about a foot high. The off-sets will blow in about three or four years after they are taken from the old roots.

ALL this is extremely superficial, but contains no very gross mistakes. He orders too great a proportion of sea sand; and it will be very imprudent to trust much to his directions in order to secure this plant against the hardships of our winters; in fine, he might as well have told us, that off-sets will blow in about three or four years before they are taken from the old root as after; the truth of both these assertions depending equally on the time in which the roots are taken out of the ground, and the off-sets parted from them.

IN an appendix to the foremention'd treatise, publish'd lately, Mr. *Bradley* has given us some farther remarks on the *Guernsey Lilly*, in which he proposes to treat the culture of it at greater length than he had done before. As the *Guernsey Lilly*, he says, is esteemed one of the most beautiful flowers of the garden, and is now so much in request that it is daily sought after by all lovers of flowers; in so much that a learned Physician has thought it worth his while to give the world a large volume on that subject; I have thought fit to enlarge upon the method of its culture, and to remark some particulars in that flower, which yet have not been taken notice of by any author.

I HAVE this year had a very particular opportunity of observing several hundred roots of the *Guernsey Lilly*, at Mr. *Sutton's* Coffee-house in *Aldersgatestreet*, to whom they came directly from

from the island, and with them some of the earth they grow in. Mr. *Sutton* who is very curious in things of this kind, observes that these roots ought to be planted very shallow, because many of the bulbs which came to him were near two thirds cover'd with moss, so that consequently a very small share of those bulbs were bury'd in the earth; 'tis observable also that the fibres or roots which proceed from these bulbs are perpetual, and that the growth or appearance of this plant above ground is about seven months in the year, and that during the season that it disappears, one may remove the roots from one place to another without doing them any injury. Again it is to be remark'd, that from the time the leaves fade, till about the end of *August*, the plant is in a state of rest, like some of the sleepers as we generally call them; I mean such as the hedge-hog, or urchin, bat, &c. or among plants the *Narcissus* and many other bulbs. We are also to observe, that in this flower as well as all other bulbs, the flower is actually existing in the bulb a whole year before it appears above ground, and that the blowing roots remain always longer without shooting than the leaf roots; the leaf roots generally put out their leaves a fortnight sooner than the flowering roots produce any thing: And it is also to be observ'd, that the common remark which we have hitherto look'd upon as a rule for distinguishing blowing roots, *viz.* the bringing of six leaves the year before blowing, is not to be any longer look'd upon as infallible, for this year has plainly demonstrated the contrary in many places; however we must have so much regard to the six-leav'd roots, that we may reasonably conjecture, that they are in good strength, and it has been observ'd that they have blossom'd in the year after they have shown six leaves; but my observations this year and the last satisfy me that it is doubtful; but we may add that the roots which bring only two or four leaves are certainly too weak to flower.—It is remarkable that the soil which came with Mr. *Sutton's* roots, was a sandy loam mix'd with sea sand and broken shells. From the whole we may learn that the bulbs should not be put in the earth above half their height. Again as to the soil we are taught to give this root a free open earth. I may take notice here that the height of the flower-stem if the plant stands in the open air, will be about a foot, and if it happens to be set in a room, or in a glass case or stove where the air does not reach it with freedom, it will sometimes be near two foot high; but then

then it will be weak and the colour of the flowers will be paler when it is confin'd than when it has the free air.

IN the introduction to my first description of this plant, I acquainted my readers that it was taken from observations made during the space of one season only; and therefor I invited all lovers of flowers to transmit to me in the way they judged most proper, what farther remarks they should happen to make about it. Mr. *Bradley* has chosen to communicate his to the publick himself, without giving me the trouble to do it for him; but I am so far from thinking that he intended thereby to lessen the merit of my observations, by showing them to be imperfect, which I had before acknowledg'd in the most formal terms, that I most willingly return him my sincere thanks for what attempts he has made in order to make the world more thoroughly acquainted with this inestimable curiosity.

How far these attempts have answer'd this design, is what I shall here take the liberty to examine, in a few short reflections on Mr. *Bradley*'s remarks in the same order in which he has placed them.

1. HE begins by telling the world that the *Guernsey Lilly* is now so much in request, that it is daily sought after by all lovers of flowers, in so much that a learned Physician has thought it worth his while to give the world a large volume on that subject. A few years before this large volume, consisting only of one and forty pages, was publish'd, Mr. *Bradley* complain'd (*New Improvements*, p. 23.) that this was a plant rarely found in our gardens; and therefor that it is now brought more into request and so much sought after, should in justice to me have been represented by Mr. *Bradley*, as the effect, not as the motive of my writing about it.

2. FROM what Mr. *Sutton* observ'd about the roots which were sent him from *Guernsey*, Mr. *Bradley* infers, that the bulbs should not put be in the earth above half their height. *Liger*, above twenty years ago, directed the roots to be planted only two or three inches deep, which is pretty near the same with what Mr. *Bradley* here recommends. But in *Guernsey*, from whence the true rules of culture are undoubtedly to be learned, due allowance being made for the difference of that climate and soil from ours, they are commonly set five or
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fix inches deep; tho' at the same time it must be own'd that they are observ'd there to thrive perfectly well, when one half or more is out of the ground. Mr. *Bradley*'s rule for planting therefor, when taken by its self, is neither new, nor agreeable to the best method of practice: But when consider'd as an inference from Mr. *Sutton*'s having observ'd that many of the bulbs which came to him directly from *Guernsey* with some of the earth, they grew in, were near two thirds out of the ground, it will be found a very false one, and shows that Mr. *Bradley* is still but little acquainted with the manner of growth and propagation of these bulbs. He ought to have known, that as the mother-root sends out its off-sets, and these again send out others, they come at length to form large groups or clusters, by being left in the ground without transplanting for many years as is the custom in *Guernsey*. And thus a great number of such off-sets both from their now nature, and for want of room to spread horizontally, must necessarily be forced upwards, and the greatest part of them appear above ground. These were the roots Mr. *Sutton* observ'd, but it will no ways follow from thence that the mother-roots were planted in that manner at first.

3. WHAT he says about the proper time for removing the roots, is no more than a passage of Mr. *Fairchild*'s letter put in other words, being an application of a very general rule, onw known to all who cultivate plants, to a particular case. Instead of this unnecessary repetition Mr. *Bradley* would have done better to inform us whether, since in case of necessity, the roots may be remov'd from one place to another every year, there may not be other cautions to be observ'd in this part of the culture; and that in *Guernsey* these removes are not made above once in eight or nine years, and even then only because the increase of off-sets becomes so prodigious as to hurt each other's growth.

4. Mr. *Fairchild*, who has had a large stock of these roots for above these fifteen years, and is acknowledged upon all occasions, even by Mr. *Bradley* himself, to be a most judicious and nice observer in such cases as we are now talking of, lays it down for a rule that those roots that come with six leaves this year, *seldom* fail blowing the next year. Against the truth of this observation, Mr. *Bradley* brings us the experience of two years only; as to one of which I am positive he is mistaken, and the

the other, that is the last season upon which he builds most, was so very cold and rainy that no consequence ought to be drawn from it; favourable weather and good management being always suppos'd in the rules which Gardeners lay down about the growth of plants. What Mr. *Bradley* adds, that it has been observ'd that they have blossom'd the year after they have shown six leaves is a certain truth, and contains this mighty discovery that the *Guernsey Lilly* has been observ'd to flower; for surely if it had never flower'd after having born its greatest number of leaves, being then in good strength according to Mr. *Bradley's* own concession, we could have no reason to imagine that ever it should flower at all.

5. Tho' Mr. *Bradley* will not allow all the six leav'd roots to flower the year after, he is certain that those which have only two or four leaves are too weak to flower: And yet the gentlemen of *Guernsey*, when they meet with a large well grown healthy root, make no scruple of sending it to *England* as one that they expect will flower in the following season, tho' it bore no more than four leaves the last, as has been more particularly mention'd in another place.

6. The intent of Mr. *Bradley's* remark, that in the soil that came with Mr. *Sutton's* roots, there was a mixture of sea sand and broken shells, can be no other than to instruct us how we ought to prepare a proper soil for these roots to be planted in, from the practice of the inhabitants of *Guernsey*: And therefore he must not take it amiss if I inform him, that there they are perfect strangers to any artificial soils, and that what he mistakes for such, is a mixture which the more curious cause sometimes to be sifted over the roots, when they have multiply'd very much, in order to refresh those that are almost quite thrust out of the ground, and especially to preserve those they send to *England*, during their passage.

7. What Mr. *Bradley* remarks concerning the difference between plants kept in a hot room or stove, and those that grow in the open air, is no more than has been observ'd of a thousand plants besides; and he might have inferred some part of it with respect to this plant in particular, from the different lengths of the flower-stems set down in my book, the longest being such as grew in my parlour; the shortest, those that I measur'd at Mr. *Fairchild's*. No doubt the beauty and health of this plant depends

depends very much on its enjoying the free and open air, as much as the severity of our winters will permit ; but after all the pains we have hitherto been at about it here in *England*, the gentlemen of *Guernsey* who have seen our finest flowers, are still of opinion that they come very much short of theirs. This I hope will engage such ingenious persons as Mr. *Bradley*, to make farther attempts still in order to perfect the culture of it among us.

BUT now to go on to the remaining authors who have mention'd the *Guernsey Lilly* ; all that I have to say about the incomparable Professor *Boerhaave*, has already found its place in the history of the different methods in which this plant has been class'd by Botanists.

Mr. *LAURENCE*, from whom we have already heard a story concerning the time and manner of its first coming to *Guernsey*, has made these farther observations about it. It would be almost endless, says he, to mention all the various sorts of *Narcissus* which the curious have of late discover'd or describ'd : But it would be the highest injustice to the crown and glory and king of them all, to say nothing, or but little, of the *Narcissus* of *Japan*, which is by all allow'd to have the precedence, and to excel in beauty.

IT is not above half a Century since this delicate plant was brought over to us from the *Indies*, when it was first called the *Japan Lillie* : but afterwards as the merchants trading from thence, and unloading at the island of *Guernsey* the ballast in which lay accidentally and confusedly many of these roots, they obtained the name of the *Guernsey Lillie*, from whence at this time we have them brought to us into *England* ; the want of which knowledge hath occasioned our modern authors, writing about flowers, to speak of this and the *Narcissus* of *Japan* as two different flowers. There are indeed two or three kinds of these something different from one another, and the greatest difference is in one which flowers in the beginning of *June*, but they have been all brought from *Japan* to *Guernsey*, and from thence are derived to us. The two other sorts which flower in *October* and *November* are also very choice and beautiful flowers, in the form of a Lilly, of a crimson and white colour. The cover wherein the flower is inclos'd is compos'd of white membranes, which at their first opening discover the flower-leaves of a pink colour,

colour, representing a bunch of feathers both in the inner and outward side ; six unequal pivots shoot out from the middle of these flowers, on the top of which some *stamina* appear like those of saffron, falling down like the tops of fennel, of a beautiful and agreeable red. The whole flower looks as if it was powder'd with gold-dust, the ground of the petals being of a rose colour.

Two thirds of sea sand and one third of garden mould, seems best to imitate the nature of the soil from whence they come, and they are observ'd to thrive in such. They will bear our winters under a good south aspect, for they delight in a hot sun. The want of which is oftentimes the occasion they will not blow with us ; but to make sure of that, the only way is to give such as are in pots, the advantage of a gentle hot bed in *August*. The off-sets should be remov'd once in two or three years, and even they will soon with care be brought to bear.

THIS is *Laurence's* account of the *Guernsey Lilly* ; and I have repeated what he says about its first coming into *England*, on account of an inference he draws from it, That the want of this knowledge of the two different ways by which we have had it, has occasioned modern authors to speak of it and the *Narcissus* of *Japan* as two different flowers. I have already shewn how little ground there is to believe, that ever we had this plant brought directly from *Japan* to *England*, the want of this knowledge therefor could never lead any author into a mistake ; and in the next place, I would gladly know of Mr. *Laurence* who these modern authors are who have spoken in the manner he mentions. If he means *Liger*, who seems to be the only author he has consulted about it, except what he has taken from *Bradley* ; it is plain from what we have quoted from him, that he knew nothing of its being in *Guernsey*, and much less still of the manner in which it was brought either to that island or to *England* ; and in *Bradley's* writings I can find nothing that could give occasion for such a remark.

WHAT Mr. *Laurence* has told us about the culture of this plant, and one remark concerning the spangles and colour of the petals, he has borrow'd from Mr. *Bradley's New Improvements* ; and even that is sufficient to show, that he was very little acquainted with the management of it himself. The rest

is taken from *Liger*, and proves beyond dispute, not only that Mr. *Laurence* had never cultivated this plant himself, but that in all probability he had never so much as seen it. *Liger's* description of this flower, I have already observ'd to be full of mistakes too evident to need being pointed out; *Laurence* bestows very great encomiums upon the same flower, and singles it out from among all the other *Narcissi* as best deserving a description: Had he ever seen it therefor, he must needs have thought it a higher injustice to transcribe a description of it every way faulty, than to say nothing or but little about it.

BUT the greatest misfortune of all is, that instead of mending *Liger's* description, Mr *Laurence* has made it much worse, having added new blunders to those committed by that author. Of these I shall give three instances.

1. *LIGER* says that the *Narcissus* of *Japan* is of three sorts; and *Laurence*, who thought every thing belonging to the *Narcissus* of *Japan* might be apply'd to the *Guernsey Lilly*, tells us very gravely, that this is of three kinds likewise, and that one of them flowers in *June*. What *Liger* says may in some sense be true, but the application made of it by *Laurence* is every way false: The *Guernsey Lilly* never flowers in *June*, and there are no other varieties to be observ'd in it, than what are accidental and common to it with the different individuals of all species of plants.

2. *LIGER* very justly makes this plant flower in *September*, *Laurence* in *October* and *November*, which can never be true, but in very bad seasons or for want of due care, from which no general rules ought to be taken.

3. *LIGER* mentions six unequal *pivots* in the flower of this plant, and on the top of these he places the *pendants*, meaning by these two terms what we commonly call the *stamina* and *apices*. But Mr. *Laurence*, through an inadvertency which is unpardonable in any whoever pretended to understand the terms in Botany, far less to write systems of any branch of that science, places some *stamina* on the top of the pivots. Six unequal *pivots* says he, shoot out from the midst of these flowers on the top of which some *stamina* appear like those of saffron, falling down like the tops of fennel.

FROM

FROM this short sketch of Mr. *Laurence's* blunders about the *Guernsey Lilly*, the reader may learn what judgement is to be made of such compilers, who are so far from being masters of the subjects they treat, that they do not so much as understand the authors they copy.

IN this manner have authors treated the *Guernsey Lilly*, and from all that I have here quoted it will appear very plainly that, properly speaking, there has never been but one description publish'd of it, I mean that of *Cornutus*, and it is such as leaves ample room for another. There are a few authors more who are thought by some to have mention'd this plant, but altogether without ground, as will be easily shown in a very few words.

OF these *Clusius* is the first in order. This great author has indeed given us an account of two plants, the one called *Narcissus Latifolius Indicus rubro flore*, and the other, *Lilio-Narcissus Hemerocallidis Valentinae facie*, which agree in some things with this plant; but in many others they appear to be quite different, neither do his figures of either of them at all resemble it. The same thing may be said of the *Narcissus Jacobæus*, so first call'd by *Clusius*, and which *Aldinus* has remark'd to be a plant quite distinct from his *Lilio-Narcissus Indicus*, as it certainly is more so from the *Guernsey Lilly*.

I HAVE heard it very confidently asserted, that *Aldinus* under the title of *Lilio-Narcissus Indicus Rubeus*, and *Ferrarius* by the name of *Narcissus Indicus Liliaceus saturato aut diluto colore purpurascens*, or *Narcissus Indicus flore liliaceo sphaericus*, had described this plant; and even Dr. *Morison* did not think himself sure but that the first of those mentioned from *Ferrarius* might be the same with it. But whoever will be at pains to compare the descriptions and figures of these authors with mine, cannot but see that they were never intended to express the same plant.

BESIDES these three, I have consulted as many other Botanical authors as I could reasonably expect might have mention'd this plant; but in none of them do I find either description or figure that is not more different from it than any of those which I have already named. That *Nobile par fratrum Johannes & Casparus Baubini*, I am very well satisfy'd, had no knowledge of it;

it; for if C. B. has mentioned it any where, it must be by the name of *Narcissus Indicus totus ruber*, but that is only another name for the *Narcissus Jacobæus*, which we have already observ'd to be a quite distinct plant. And as for J. B. both his descriptions and figures of all plants that have the least resemblance to this, are copy'd from *Clusius*. *Sweertzius*, *Passæus*, *Parkinson*, and others who have written expressly of flowers, take no manner of notice of this beautiful flower. And *Besslerus* in that pompous work the *Hortus Eystetensis*; the authors of the *Hortus Malabaricus*, and *Commelinus* in the *Hortus Amstelodamensis* have neither describ'd nor delineated it.

F I N I S.

Explanation of the FIGURES.

T A B. I.

FIGURE I. to 9.

NINE views of full grown roots, representing their different shapes.

FIG. 10. to 16.

Seven views of young roots or off-sets.

FIG. 17.

A view of a whole plant in which the leaves appeared soon after the flower.

FIG. 18, 19.

Two draughts of the *Caulis Floriger*, in the first of which, the *Perianthium* is seen in front; and in the other, in a side view.

T A B. II.

FIGURE I.

IN this figure the GUERNSEY LILLY is delineated in full blossom, just as it was taken out of the ground, intire in all its parts, one flower only being cut off.

1. Fibrillæ, or small strings of the root.
2. Fibræ or Radiculæ.
3. The bulbous part of the root:
4. The neck or narrow part of the root: both covered with the external Involucra.
5. The leaves beginning to sprout on one side of the stalk.
6. The Caulis, or flower-stem, which in this figure appears more bent, than for the most part we observe it in the plant itself.
7. The Perianthium.
8. A flower not blown.
9. Another a little opened, to show the Stamina and Apices just coming out.

10. All the other flowers in full blossom, with the Stamina and Apices drawn confused as they appeared to the Dessinateur.

11. The root of the Petiolus of the flower that was cut off.

FIG. 2.

Represents the root of a flowering-plant, divested of its external *Involucrum*.

1. The fibres cut short.
2. The Basis Radicis.
3. The outer cover divided and thrown back.
4. The lines which are very plain and conspicuous upon the inner or second covering of the bulbous part of the root.
5. A Surculus or off-set arising from the Basis Radicis.
6. The shrivel'd or dry'd edges of the longitudinal coats on the narrow part of the root.

U

7. The

7. *The Caulis Floriger or flower-stalk cut off.*

8. *The Leaves.*

FIG. 3.

Shews the *Perianthium* with the *Lacinia* display'd, the stalk and *Pedunculi* being cut off.

1. *The largest portion of the Perianthium, or cover-flower.*
2. *The narrowest part of it.*
3. *The Lacinia.*
4. *The roots or beginnings of the Pedunculi.*

FIG. 4.

Here the back-side of one flower is exhibited; two of the *Petala* being drawn out at length to shew the pinch.

1. *The extremities of four of the Petala turned back, as they appear in this view.*
2. *The other two drawn out at length, to shew the undulation, or pinching on the edges near the extremities.*
3. *The Costa or rib running along the middle of the flower-leaf.*

FIG. 5.

Demonstrates the fore-side of a flower in its full bigness, the *Stamina* and *Stylus* being cut off.

1. *The Petala, or flower-leaves.*
2. *The Sulcus on the inside.*
3. *The Unguis, or narrow neck arising from that part called the Umbilicus Floris.*

FIG. 6.

In this Figure the *Stylus* and *Stamina* are laid out to show their true dimensions; all the flower-leaves, except two, being cut off.

1. *The Stylus.*
2. *The Stamina crown'd with Apices.*

3. *The Umbilicus Floris, whence the Stamina and Petala arise, lying between them and the Vasculum Seminale.*

4. *The Vasculum Seminale.*

5. *The Pedunculus.*

6. *Two of the flower-leaves.*

FIG. 7.

In this view the natural and ordinary turning of the *Petala* is fairly represented; all the flower-leaves, except two, being cut off. The *Stylus* likewise is here delineated with its triangular *Apex*, and the *Vasculum Seminale* and *Pedunculus* are divided.

1. *The remaining half of the Petiolus, which shows the inner substance.*
2. *Two of the Loculamenta Seminis filled with small whitish seeds.*
3. *The Umbilicus of the flower.*
4. *The flower-leaves in their usual turn and shape.*
5. *Two Stamina.*
6. *The Stylus with its triangular extremity.*

FIG. 8.

Here the three *Loculamenta* or cells in the *Vasculum Seminale* are laid open, to show the numerous small seeds therein contained.

FIG. 9.

Represents the *Apex Versatilis* on the extremity of the *Stamen*, as big as it always appears at its first coming out,

FIG. 10.

This figure shows two leaves surrounded by the innermost longitudinal coat of the bulb.

1. *The two leaves.*
2. *The longitudinal coat.*
3. *The basis of the root.*

FIG. 11.

FIG. II.

Exhibits two leaves arising from the *Fundus Radicis*, divested of all the coats or *Tunicæ* of which the whole root is made up.

1. *The green part of the Folia.*
2. *The whitish part that lies within the bulb.*
3. *The Basis Radicis or Truncus Radicis.*

T A B. III.

FIGURE I.

HERE are represented five of the flowers in a decaying or withering state; the rest being removed that the *Pedunculi* may come more in sight.

1. *Part of the flower-stem.*
2. *The two portions of the Perianthium.*
3. *Some of the Laciniaë.*
4. *The roots of the Pedunculi which were cut off.*
5. *The remaining Pedunculi appearing of different lengths and dimensions.*
6. *The Vasculum Seminale.*
7. *In the decaying flowers we may observe some more, some less withered in the same Degrees as when they blossomed; and likewise that the Stamina fade and fall before the Stylus.*

FIG. 2.

Exhibits the beginnings of the leaves and flower-stalk arising from the *Fundus Radicis*, distinct or separate from one another.

1. *Fibræ.*
2. *Basis Radicis.*
3. *Some part of the circular coats left on.*
4. *The leaves involved by two longitudinal coats distinct from the stalk.*
5. *The Caulis Floriger coming likewise from the Basis.*

6. *A single process between this and the leaves.*
7. *A sort of half coat which is proper to the Caulis, but does not quite surround it.*

FIG. 3.

In this figure is delineated a fine group or bunch of roots, with green leaves; the mother-bulb being in the middle, and her numerous off-spring of different years growth, on each side; as it was taken out of the ground in November.

FIG. 4.

The several *Tunicæ* or coats of which the root is made up, taken off from one another and kept together by a string, are fairly represented in this figure.

FIG. 5.

Exhibits the *Basis* or bottom of the root.

1. *The Basis or Truncus Radicis.*
2. *Part of the bulb sticking to it.*
3. *An off-sett arising from a knobby part or bunch which proceeds from the Basis.*
4. *Small depressures like holes between the Fibræ.*

FIG. 6.

FIG. 6.

Represents an horizontal Section of the bulbous part of the root, to show the circular situation of the coats, with leaves coming up in the middle.

FIG. 7.

Here we see the whole root cut perpendicularly to the horizon, to show the above-mentioned parts in another view.

1. *The Basis Radicis, with some of the Fibres faintly represented.*

2. *The coats, both circular and longitudinal, arising from thence.*

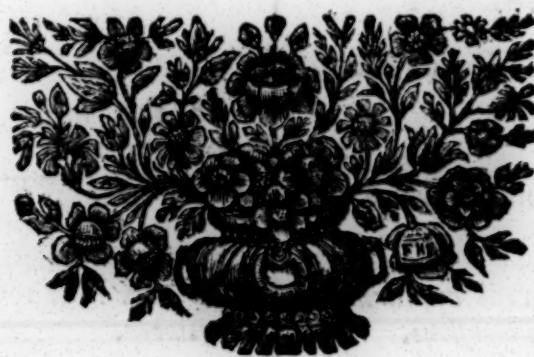
3. *Two leaves arising from the Basis and ascending through the middle of the root.*

FIG. 8.

Shows the inside of a longitudinal coat cut open and laid back.

FIG. 9.

Represents the outside of another coat; and both have part of the dried leaf adhering to them.

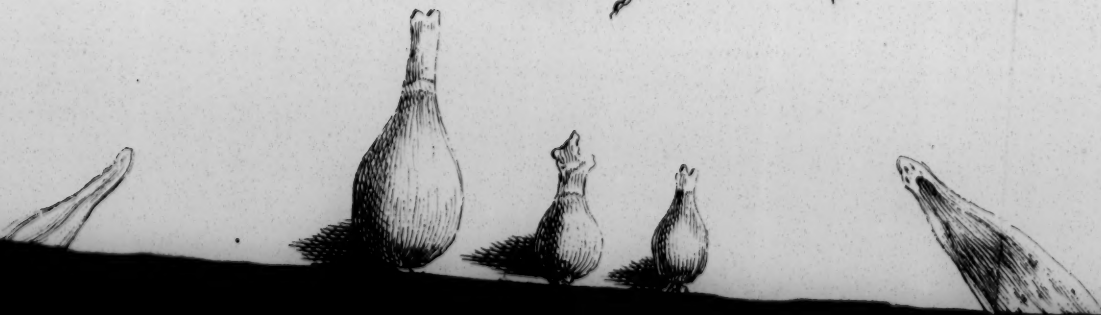
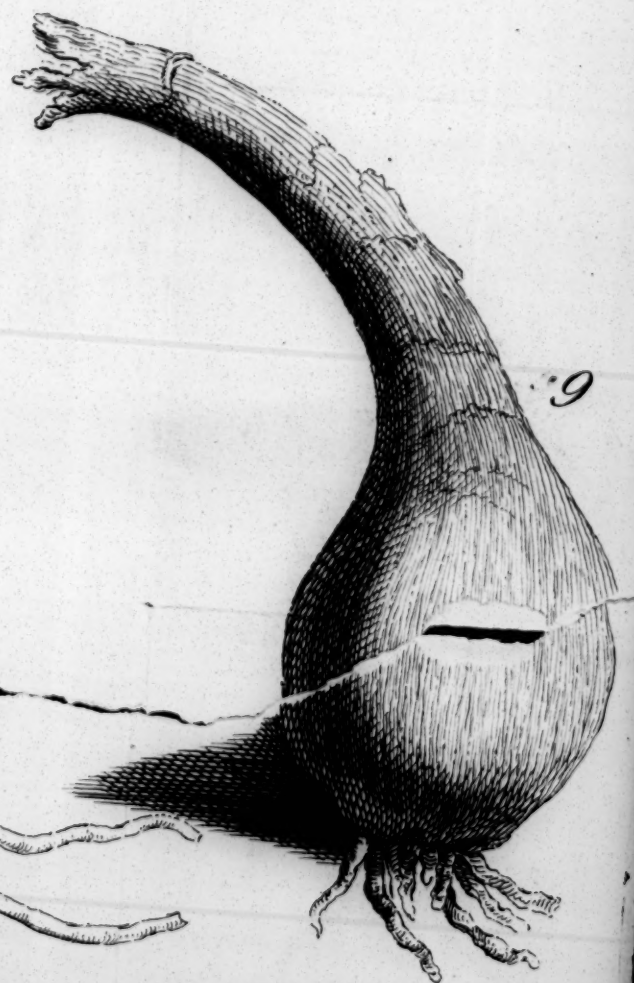
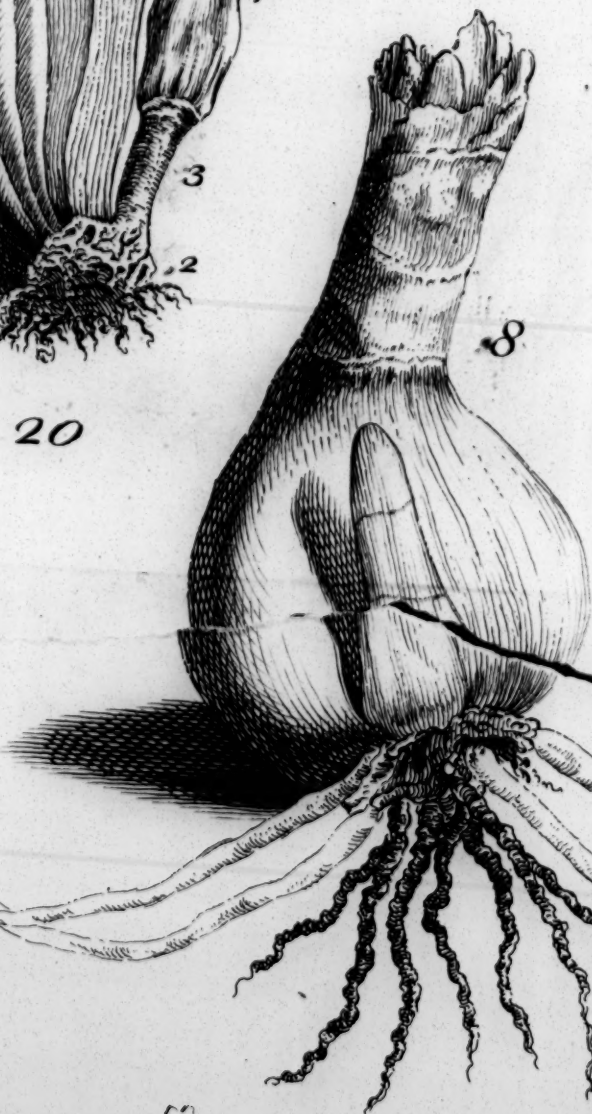
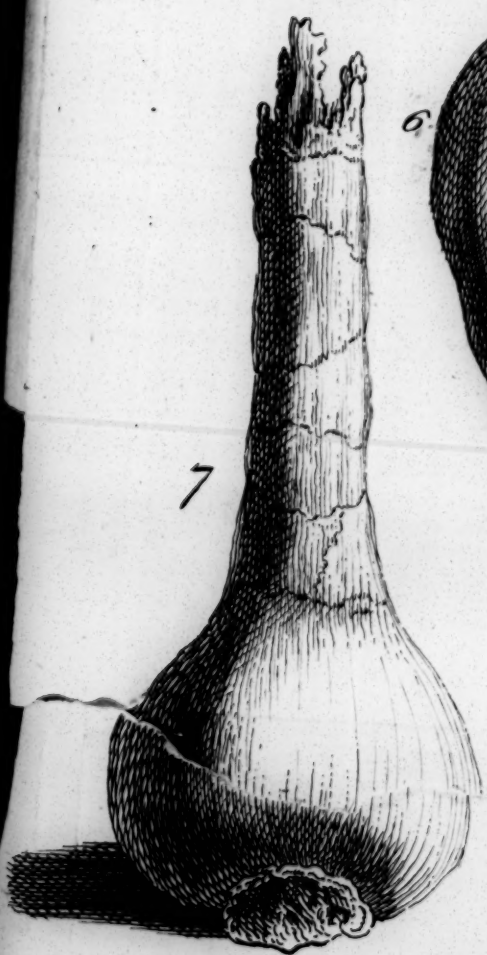
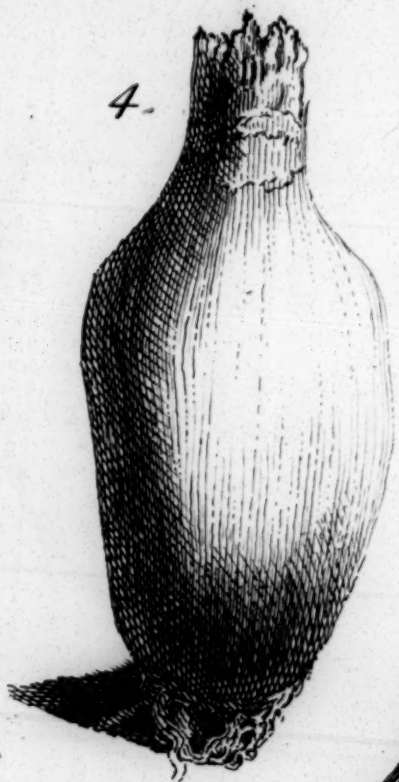
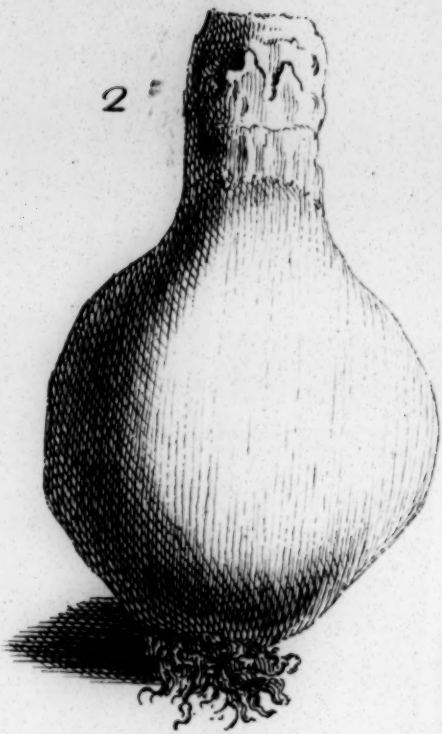
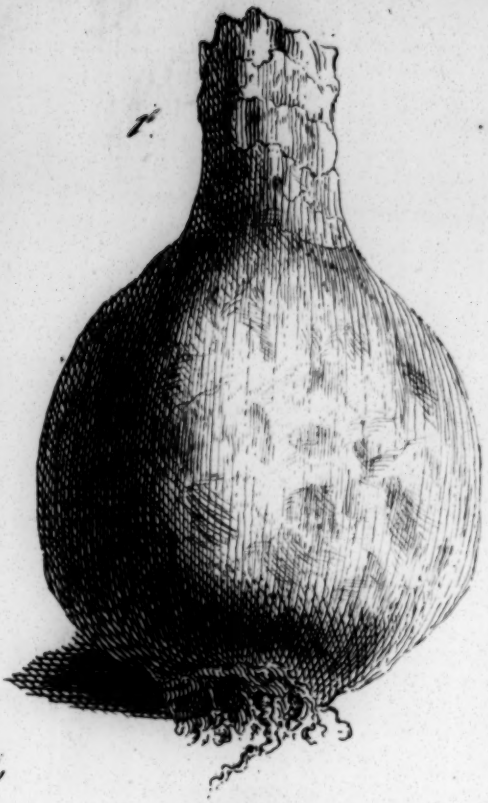


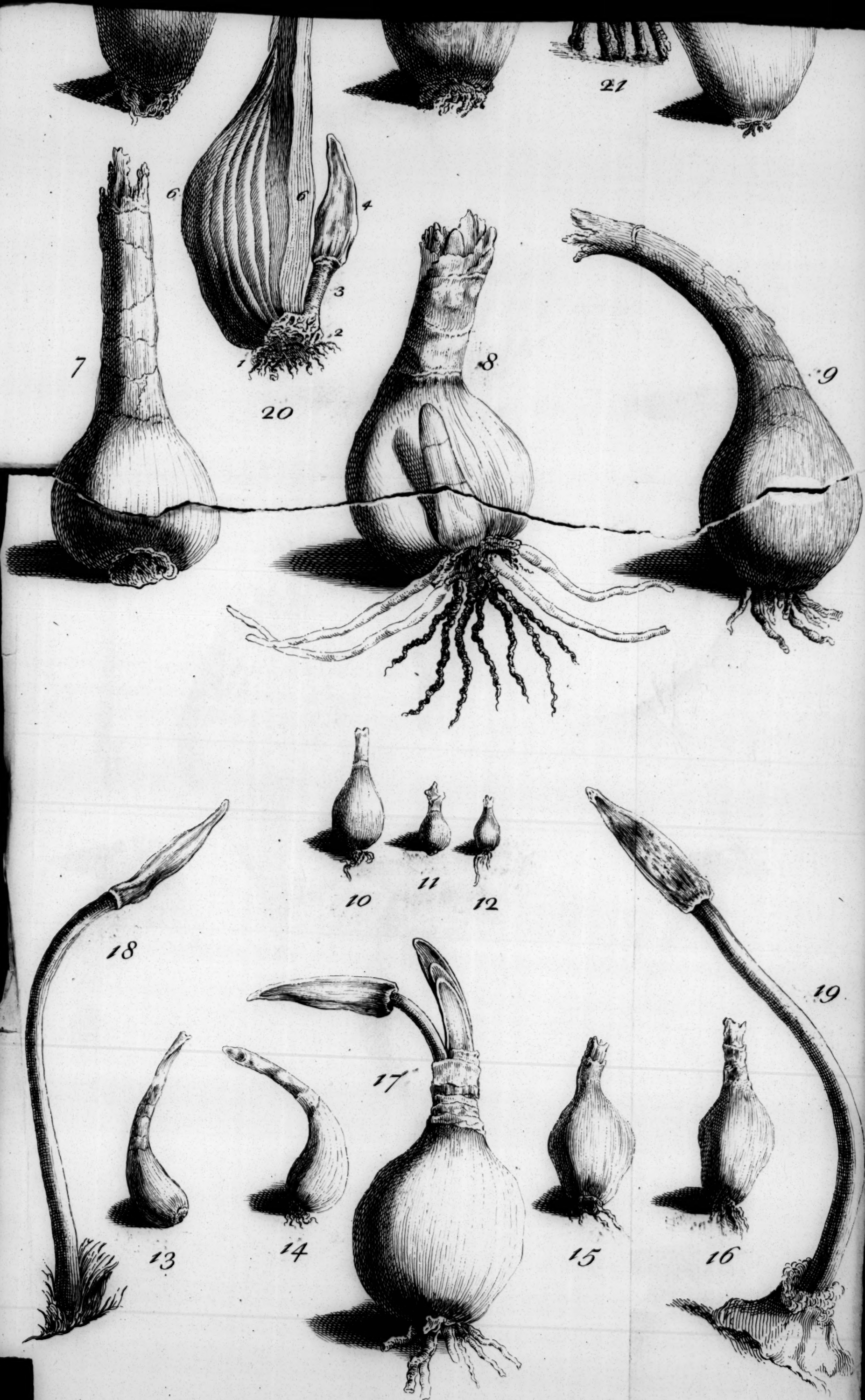
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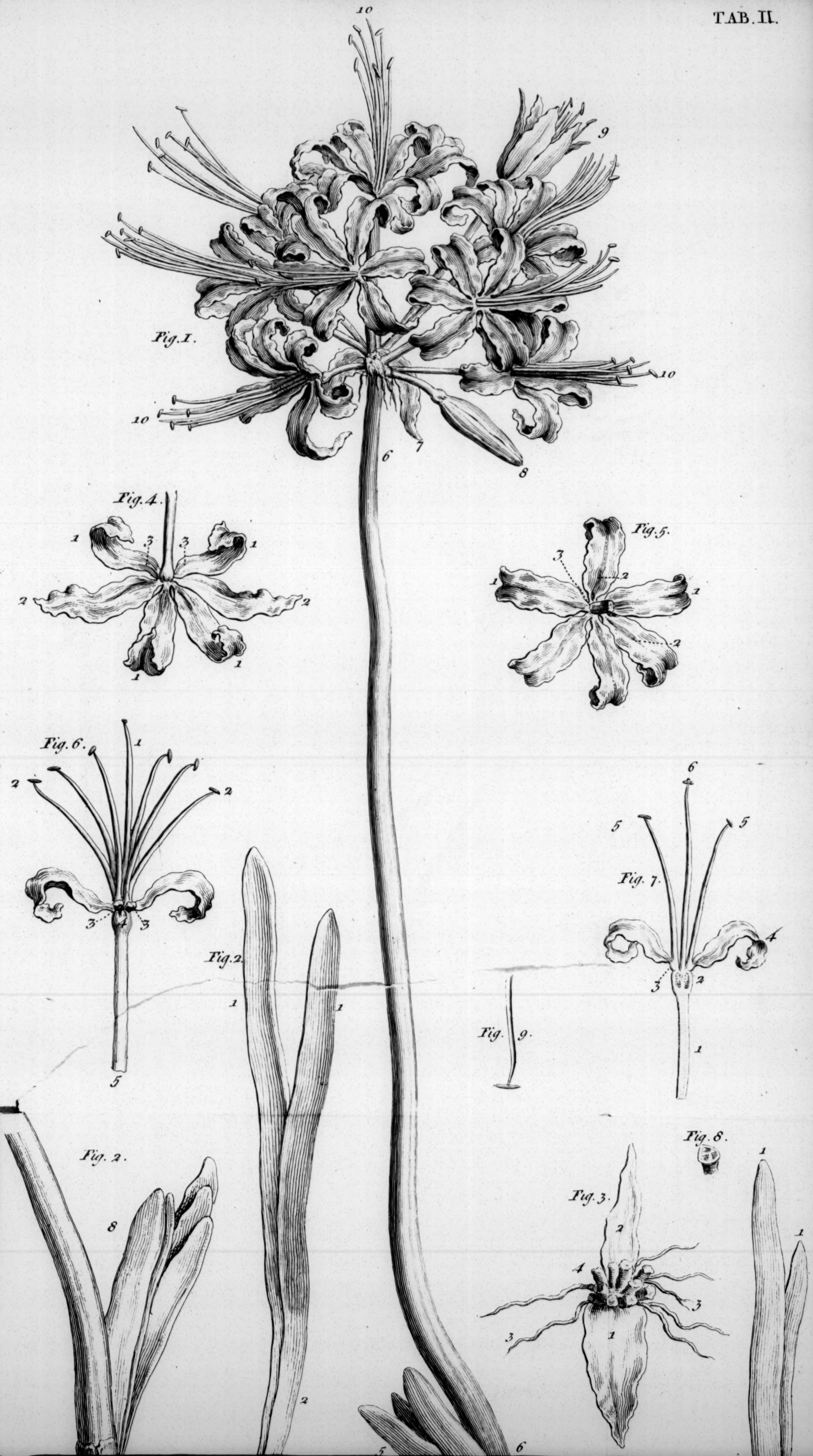


Fig. 2.

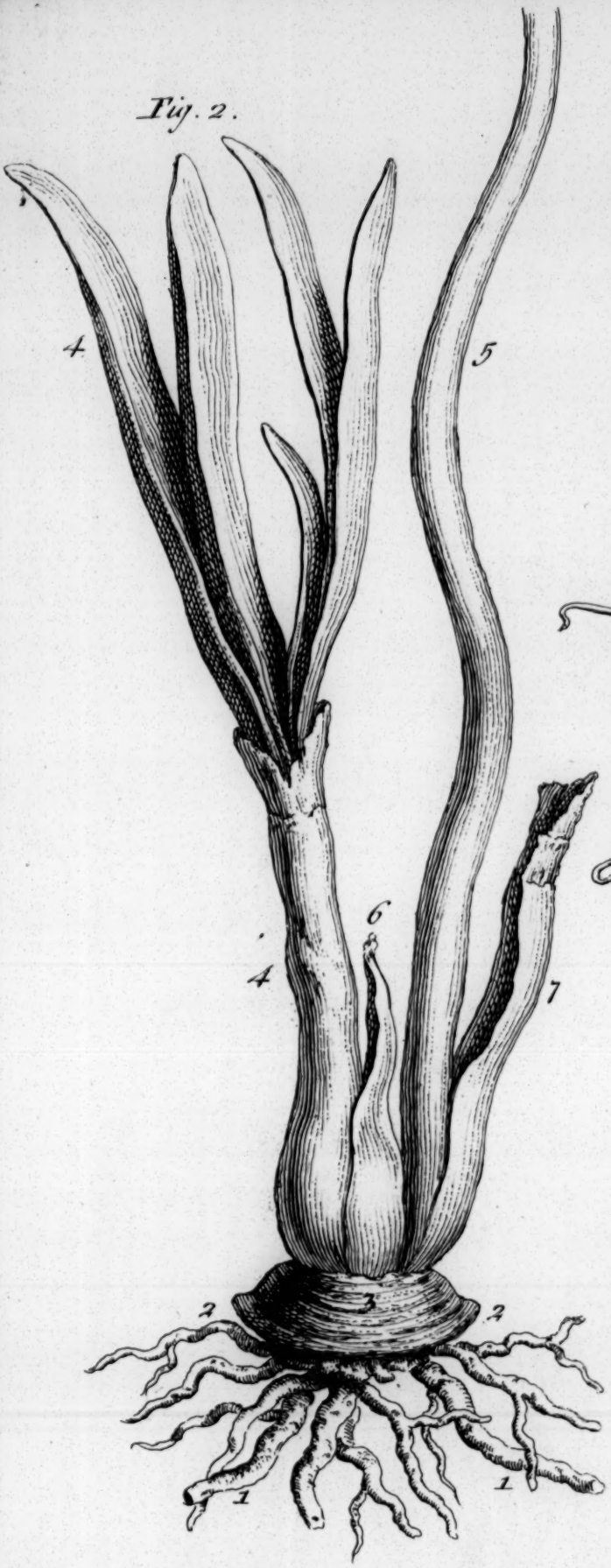


Fig. 1.



Fig. 8.



Fig. 7.



Fig.



Fig. 4.

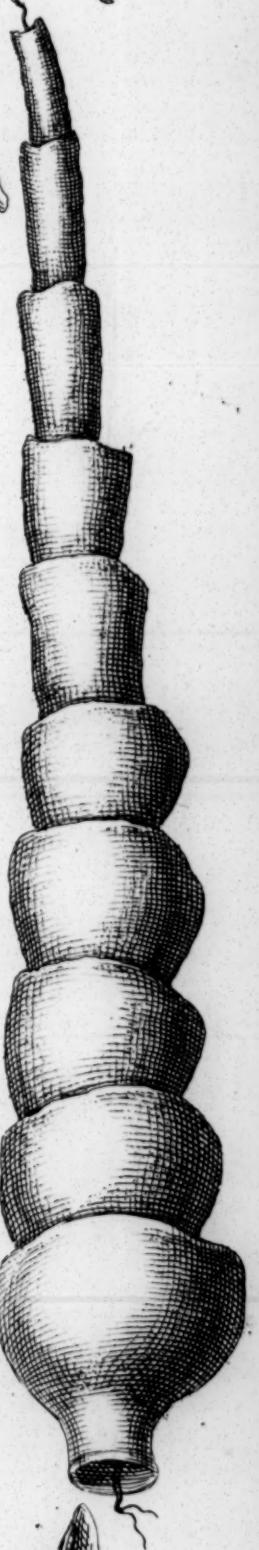


Fig. 5.

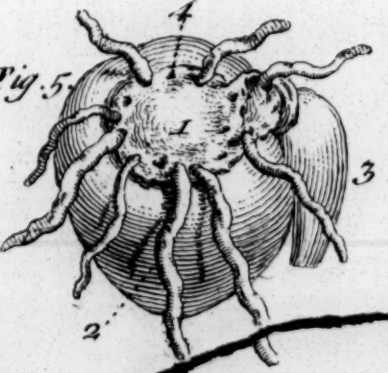


Fig. 6.



